ABSTRACT OF

A Lecture

ON

THE NATURE OF CANCER AND GENERAL CLASSIFICATION OF CANCEROUS DISEASES.[1]

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Definition of cancer.—The various diseases known as "malignant" or "cancerous," more briefly as "cancer," constitute a large group of morbid conditions in which cell elements normal to the body are found to multiply luxuriantly and to prey upon the healthy tissues, eventually destroying the life of the individual. The cells or nuclei which have undergone this profound modification appear to have now become independent organisms—parasites, or rather autosites. All malignant lesions comply with this definition; their phenomena, clinical and pathological, differ in details, but uniformly agree in kind, the variations depending mainly on the character and functions of the particular cells attacked by the diseased process. There are strong reasons for regarding this peculiar change as one of reversionary character, of devolution in place of evolution; the cell elements of the particular tissue attacked reverting to a primitive, amœbiform condition once universal throughout the germ.

Evidences of this autositic reversion.—The parenchyma of all cancerous growths can be traced by microscopic examination to healthy cell elements, and in a specimen so investigated in the incipient stage the transformation process is very evident. In section from small spindle-celled sarcoma developed on the sheath of the flexor tendon of a man's thumb, the staff-shaped nuclei of the fibrous tissue were shown undergoing transformation into the malignant spindle-cells of the sarcoma. Whatever the cell species attacked by this "cancer process" the new cells are found to be enormously increased in number, and by them the healthy tissues around are being actively eroded. Further, the latter develop a remarkable infectivity. Some are transplanted by mechanical agency—usually by blood or lymph-currents to distant regions, where they grew actively and gave rise to secondary tumours. With active growth, death and decay are necessarily concomitant, the sum total of the two contrasted processes giving rise to the outward and visible signs of disease. Progressive erosion by new cells which have become infective is the essential badge of all the cancers. The phenomenon known as "auto-inoculation," in some species common, in others exceptional, affords collateral evidence tending in the same direction. Malignant tumours in the ovary or broad ligament assume ordinarily a cystic character; the cysts have gelatinous contents and are prone to rupture into the peritoneal cavity. The jelly is due to a mucoid degeneration of the parenchyma; still active cells survive therein, and these are now strewn widely about the serous membrane. They take root as grafts, each proceeding to develop into a gelatinous quasi-cystic tumour resembling the parent. Such cases are described as "colloid cancer"; the secondary grafts are usually very numerous. Again, to take a more common cancer species, patients dying from lingual epithelioma commonly display little white islets of morbid epithelium on the soft palate and pharynx, which, if time allow, progress into typical epithelial sores. In the bladder, also, the condition is often found. More exceptional instances have been reported by numerous writers. Dr. Cayley[2] met with a cylindroma of the rectum which had perforated the posterior wall of the vagina and had produced a graft on the anterior wall. Mr. De Morgan describes[3] a carcinoma in a woman's breast, which had similarly attacked the inner aspect of the corresponding elbow kept in contact with it; he records another instance in which cells from a growth in the eyeball gained access to the subarachnoid fluid and drifted down to the cauda equina, producing a tumour in that spot,[4] and Dr. Moxon[5] reports an epithelioma of the trachea, minute fragments of which had been inhaled; with the result that minute epitheliomatous foci developed at the extremities of the smallest air tubes. The ease with which the cancer patient under suitable conditions inoculates him or herself singularly contrasts with the entire absence of any authentic case of cancer inoculation upon another individual; an event for which the great prevalence of uterine cancer affords special facility. It may be further compared with the extreme difficulties of purposive cancer inoculation amongst the lower animals.

Natural classification of the cancers.—Taking the tissue origin as a natural basis of classification nine primary genera of cancer demand recognition. These are: (1) epithelioma derived from epidermis or from non-specialised epithelium; (2) carcinoma, from the specialised epithelioid cells of secreting glands; (3) sarcoma, from the fixed-cell elements of the connective tissues; (4) lympho-carcinoma, from the lymphoid or adenoid tissues, specially from those which constitute the lymph glands; (5) cylindroma, from tubular gland follicles in the stomach and intestines; (6) rodent ulcer—the cancer of short hair follicles,—from the cells of the outer root sheath; (7) endothelioma, or primary cancer of serous membranes, probably derived from the germinal endothelium of the stomata; (8) myo-sarcoma, from the nuclei of non-striated muscle; (9) blastoma (from βλαστος, germ), vestigial cancer derived from unobliterated fœtal residua—a new group corresponding to the inclusion theory of Cohnheim. Some of these genera require further subdivision into species. Thus the carcinomata of the female mamma present two types—chronic and acute. The former constitutes the familiar scirrhus; the latter soft or encephaloid cancer. Sarcomata show two corresponding structural and clinical variations; the more chronic consist wholly of spindle cells (spindle-celled sarcoma); the more rapidly progressive also largely consist of spindle cells in bands or strands, but mixed with a number of round or ovoid cells which appear to be the free nuclei of the former. The latter are mixed-celled sarcomata. Certain tumours of the same class further contain giant corpuscles, closely resembling the similarly named elements of tuberculous lesions. These little bodies seem to be small masses of fibrine, entangling numerous leucocytes; but their real nature is still obscure. They have been termed "myeloids," from a supposed analogy to the myelo-plax of marrow. They have, however, no known relation to that tissue, and the growths in which they occur do not clinically differ from spindle sarcomata of the ordinary type. In my work on the "Reappearance of Cancer" is recorded a case affecting the mamma which ran a particularly acute course. "Glioma" is a word applied to several distinct forms of tumour developed in nerve tissue. Those attacking the infantile retina are vestigial cancers, pertaining to the class blastoma. Of so-called gliomata in the brain or spinal cord of elderly adults, some are derived from the delicate connective-tissue neuroglia; others from the ganglion cells, as originally pointed out by Virchow. "Alveolar sarcoma" is an ambiguous title generally applied to tumours of endothelial origin. Psammomata are calcified endotheliomata, probably often vestigial, and non-malignant. Of the exuberant masses of round or ovoid cells recorded as "round-celled sarcoma" some, as not seldom found in the mamma, are of glandular origin, and are really encephaloid carcinomata; others, as in the abdominal cavity, are derived from lymphoid tissue, and should rank with lympho-carcinoma; a third section, frequent in the kidneys of children, in the palatine or pharyngeal regions of the adult, own a congenital inclusion source, and are properly blastomata. No new growth can be accurately referred to the group of the true sarcomata unless it possess the distinctive badge of malignant spindle cells, ranged more or less in bands. The cancers of the lymphoid tissues, hitherto termed "lympho-sarcoma," but which, in order not further to abuse the well-worn term "sarcoma," I prefer to call "lympho-carcinomata," must not be confounded with the pyrexial Hodgkin's disease or lymphadenoma. The former is a true cancer, primarily local, attacking generally a lymph gland (compound lymph follicle), and involving progressive erosion of the fibrous stroma by the new cells, which undergo wide dissemination. The latter, also termed "lymphadenoma," is an obscure general febrile malady involving a multiple synchronous

[1] Delivered at the Cancer Hospital on Feb. 10th, 1893.
[2] Pathological Transactions, vol. xvii.
[3] The Origin of Cancer.
[4] Pathological Transactions, vol. xviii.
[5] Ibid., vol. xx.

cirrhosis of lymph glands throughout the body, with destruction of their parenchyma; it has nothing in common with malignant tumours.

Myo-sarcoma.—This form of cancerous disease has hardly yet received full recognition from English pathologists. In most of the reported cases the uterus was the site; the neoplasm probably occurs occasionally elsewhere, but is then confounded with sarcoma. An ordinary benign myoma has often long preceded the cancer symptoms, seeming to undergo cancer reversion. An instance is elaborately recorded by Dr. David Finlay;[6] it had been preceded for fifteen years by a hard quiescent tumour. Microscopically the new growth consists of two areas, each with distinct features, one of a spindle-celled structure, the other of minute round cells or nuclei, lymphoid in appearance and betraying no tendency to organisation. The drawing exhibited shows two portions of one of the tumours termed by Mr. Lawson Tait "soft œdematous myxoma," which he kindly gave me an opportunity of examining; it recurred after removal. Other examples have been reported under the same designation by this surgeon, also by Mr. J. Hutchinson,[7] and by Mr. Callender.[8] See further Schroeder's account in Ziemssen's Encyclopædia; he terms the condition "sarcoma of the parenchyma of the uterus." As an illustration of cancer reversion the sequence upon a long-antecedent benign myxoma is highly significant.

The new group of blastomata.—A definite differentiation of cancers of the vestigial group, on which I have ventured to confer the title "blastoma," is demanded by the existence of an obscure section of cancer cases, numerically very small in proportion to the rest, which conspicuously differ from the latter in histological composition and generally also in the period of life at which they appear, and which can be traced to some partially obliterated fœtal organ or else to some persistent cells of the "blasts" concerned in the development of the embryo. Such fœtal remains may persist throughout life in a perfectly innocuous form, others constitute palpable tumours without any malignant attribute. A substantial proportion, however, after a term of existence in a quiescent state, suddenly increase, and unless surgically dealt with prove fatal, with all the symptoms of true cancer. Nearly all the malignant lesions of childhood and early youth belong to this congenital division. The group of organs which are the most conspicuous offenders in this respect are those derived from the Wolffian body with the Müllerian ducts and germinal epithelium; such are the kidneys, uterine appendages, testes, vesiculæ seminales, epididymis, prostate, vas deferens and cortical portion of the adrenals. Ovarian dermoid cysts are a familiar class of tumours; but it is not so well known that they are either actual or potential cancers, prone to emit secondary metastases, and when ruptured into the peritoneal cavity to generate auto-inoculative grafts: very likely also to recur after removal. Various examples are cited by Mr. Bland Sutton in his valuable work on "Surgical Diseases of the Ovaries and Fallopian Tubes." Perhaps the most instructive case is one by Dr. Fraenkel.[9] A woman aged thirty-seven fell and ruptured an abdominal tumour, which had been noticed for two years; there was subsequent peritonitis and rapid increase in size. Eventually the cyst was found to have been a dermoid, grafts from which had taken root over nearly the whole peritoneal surface and were growing luxuriantly as pedunculated masses. Some of the smaller contained fine hairs. Mr. Bland Sutton proposes the name "oöphoroma" for these congenital ovarian lesions, and significantly points out that their degree of organisation varies with the age which the individual has attained, being most embryonic in early infancy; whilst towards puberty the new tissue tends to "assume an alveolar arrangement." A similar devolution tendency is shown by the derivatives of the male Wolffian body. Dr. Bertram Windle[10] has demonstrated the congenital source of "many, if not most," of the malignant new growths found in the kidney during early life. In 11 of his 41 cases the tumours contained striped muscle (rhabdo-myoma); the remainder differed from the ordinary sarcomata of adults in their mixed structure. So also the bladder tumours of young children contrast with those of the adult in their complex histological composition; they may contain such heterogeneous elements as striped muscle and cartilage. See cases by Messrs. Hurry Fenwick, F. A. Southam and D'Arcy Power.[11] The retinal glioma of infancy similarly needs differentiation from the cancerous diseases (generally sarcomata, more or less pigmented), which attack the eyeball in adult life. Its age-limit appears to be twelve years; it may commence in utero; both eyes may be synchronously attacked. Tumours of the soft palate,[12] of the parotid &c.,[13] furnish another section of the blastomata. The latter are important as showing that the malignant reversion may here be delayed till advanced age; whereas in the ovaries, kidneys, bladder and adrenals the patient is almost invariably youthful. The thymus is a vestigial organ, whose remains frequently develop malignancy;[14] the lesions are often polymorphic. About the spinal cord and medulla are found tumours reproducing the structural characters of intestinal cancer (cylindroma), the central nervous system and alimentary canal having both arisen from a primitive U-shaped tube. Uneffaced traces of the six obsolete fœtal canals—practically sequestrated portions of bowel—often prove the source of quasi-malignant new growths. Such obsolete rudiments as the pineal and pituitary bodies are occasionally the site of tumour development. In some of these cases the cancerous nature of the lesion would seem to have escaped recognition only because life has been quickly terminated by local pressure-effects before the emission of metastases.

When malignant phenomena supervene in a tumour arising from any fœtal remnant they seem to do so spontaneously, in virtue of some inherent reversionary force. The best illustration of the principle is afforded by the rhabdo-myomata of the kidney; rapidly growing cancers, containing sarcoma elements blended with striped muscle fibre, sometimes with various other heterogeneous tissues; and usually fatal within two years after birth. This characteristic affords a very important distinction between most of the vestigial blastomata and cancer of the ordinary type in adults. For in the latter no predisposing congenital element can be discovered; and the previous operation of a more or less extraneous exciting cause is always evident if duly sought. The clinical characteristics which stamp a tumour as of the blastoma order are sometimes an obvious congenital origin, as when the disease has commenced in utero; development from an obsolete fœtal organ, such as the thymus, pineal and pituitary bodies, parovarium, coccygeal body or other relic of primitive intestine, &c.; simultaneous appearance in bilateral structures, as in both kidneys, or both retinæ; occurrence in early childhood without obvious cause, especially when in one of the derivatives of the Wolffian body. The histological and microscopic characters of neoplasms ranking in the group vary considerably. The most common and most salient characteristic is polymorphism, a curious and complex mixture of the most dissimilar and unrelated tissues; of carcinomatous or epithelial cells, with the embryonic spindle elements of sarcoma; of tubules or cysts lined by cubical epithelium, with areas of diffuse cell infiltration; of glandular acini or crypts, with tissues of the connective order, bone, cartilage, fat. Thus the cartilage common in parotid tumours proves their congenital parentage, being developed from remains of the structure known by the name of Meckel; so cartilage and even true bone are occasional constituents of obscure tumour formations in the mamma, scrotum, rectum &c. Some of the blastomata may seem not microscopically to differ from ordinary malignant lesions; thus they have hitherto been classed as sarcomata, especially as "round-celled sarcoma," as "columnar-celled epithelioma," as "adenomata," "angeio-sarcomata," "chondro-myxo-sarcomata," as cysts or sarcomata, pure and simple &c. The bewildering variety of names testifies to the obscurity of their structure, as well as to the need of differentiation as a special group. The polymorphism is usually apparent upon microscopically examining sections from different parts of the growth; it reaches its acme in the "mixed embryonic tumour" of Cornil and Ranvier, which is composed of embryonic connective-tissue, cartilage, striped muscle, bone, tubes lined by cylindrical epithelium, lobules of pavement epithelium and cysts.

Secondary cancer varieties due to modifications, usually degenerative, in one or other of the preceding.—(*a*) Colloid or gelatiniform cancer is produced by a transformation of carcinoma or cylindroma into a mucoid amor-

[6] Pathological Transactions, vol. xxxiv.
[7] Ibid., vol. viii. [8] Ibid., vol. ix.
[9] Wiener Medicinische Wochenschrift, 1883, p. 865.
[10] Journal of Anatomy and Physiology, vol. xviii., p. 166.
[11] Pathological Transactions, vol. xxxix.
[12] One hundred cases by Mr. Stephen Paget: St. Bartholomew's Hospital Reports, 1886.
[13] Mr. Jacobson: Guy's Hospital Reports, vol. xxvi.
[14] See eight cases by M. Letulle: Archives Générales de Médecine, December, 1890.

ghous jelly; it is thus practically a disease within a disease; the carcinomatous form attacks the mamma and ovary; the cylindromatous, the stomach or intestines. (*b*) Myxoma results from a mucoid change, precisely similar to the preceding, in cell elements derived from connective tissue. (*c*) Chloroma is a very rare degenerative modification also of sarcoma tissue; it is seen only in young children and in sarcomata on the skull or facial bones; the masses are of a peculiar greenish-yellow colour. (*d*) Melanotic cancer is the product of cells which secrete melanine. It has been differentiated by myself[15] into true melanotic sarcoma, which is almost wholly restricted to the connective tissue of the eyeball, and into melanotic epithelioid cancer, which springs from the pigmented cells of the Malpighian rete and thus attacks the integument. (*e*) Osteoid sarcoma, in which the spindle-celled tissue of a periosteal sarcoma undergoes partial organisation into bone.

Obscure forms of cancer: quasi-cancerous lesions.—There yet remains a section of neoplasms which cannot be grouped with the preceding and must be placed in a special residuary class. The most remarkable is the rare thyroid cancer which attacks the thyroid body, infects the bone marrow and gives rise to numerous metastases, chiefly on the bones, of tissue exactly simulating the structure of the thyroid body. The plexiform sarcoma of Billroth and the alveolar sarcoma of other writers may be referred to the group of endotheliomata. Kaposi and Dühring's diseases (xeroderma pigmentosum and granuloma fungoides) are conditions of congenital lesion on the skin, which is highly irritable and prone to injury by external agencies. As the consequence of this hyper-sensibility, multiple epitheliomatous ulcers in the one case, sarcomatous tumours in the other, make their appearance. Cysts with fluid contents, developed in organs which are becoming obsolete, become associated with cancer symptoms in one form or another. Most commonly intra-cystic vegetations sprout from their walls; such may be composed of embryonic connective tissue (sarcomatous), or more frequently of glandular epithelium, columnar in shape and lining the wide meshes of a fibrous stroma. In this latter carcinomatous form there is also diffuse infiltration of the surrounding parts. Clinically the cases hardly differ from carcinoma of the ordinary type. They have been reported as "duct cancers"; but as the cysts in question are often dilated acini rather than ducts the term is objectionable. The mammary tumours, known as "cystic" or "adeno-fibromata," appear in later life and are primarily benign. They eventually, like simple cysts, and like every new growth in the female breast undergoing devolution, become associated with malignancy. Cheloid is an overgrowth of scar tissue, also primarily benign, but prone as age advances to a sarcomatous reversion. The "keloid" of Alibert was such a tumour developed from some minute scar previously overlooked.

Causes of cancer.—With the exception of the blastomata, cancerous diseases are almost wholly restricted to old or elderly individuals on the one hand, on the other to organs or tissues similarly past their prime, decrepit and enfeebled. Organs which have fulfilled their purpose in the animal economy and are passing into an obsolete devolution stage are the most common prey of cancer; such are the female breasts after the age of thirty-eight and the uterus from the same period or from one slightly earlier. All malignant lesions, with the same reservation, are consecutive to a special exciting cause, which may be direct or indirect, and which also varies with the tissue attacked by the cancer process. In those of direct causation the peccant cells are found to have been injured or irritated by external agencies, applied immediately to them; the traumatism may be transient and sudden, or it may be of continuous character. Epithelioma of mucous membranes is consequent on long-continued friction: 11·5 per cent. of carcinomata in the mamma follow a blow or fall. Sarcomata are generated by a blow, strain, or sprain, involving probably some rupture of fibres; lympho-carcinomata own a like source.

The indirect mode of cancer origin is most conspicuously illustrated by the history of the common cervical uterine carcinoma, and also by the remaining 88·5 per cent. of breast cases, in which the sole immediate antecedents are neurotic—e.g., mental trouble, laborious and harassing occupations, any form of exhaustive illness &c. It would thus appear that the cell proliferation of malignancy may be the consequence of a stimulus applied immediately to the cells, or else of some interference with the nerve forces which normally control their nutrition and functions.

Why cancer can hardly be due to a micro-organism.—Considerations which render this theory, now much in fashion, so improbable as to be well nigh impossible are as follows: 1. A parallel is supposed to exist between certain phenomena occurring microscopically in the cells and the coccidial disease which attacks the liver of rabbits. Clinical evidence negatives, however, any such theoretical analogy. The coccidial lesion of the rabbit's bile ducts infests young rabbits, which may spontaneously recover; cancer attacks the elderly or old, very rarely the young, and no spontaneous cure ever happens. 2. Very conspicuous differences are found between every form of disease hitherto associated with a micro-organism, and cancer. Leprosy and tubercle always lay under strong suspicion of contagion for centuries before the discovery of the bacilli. Malarious fevers attack numerous persons exposed to similar conditions of soil and climate. Cancer bears no relation to soil or to any climatic condition whatever, although it is an appanage of civilisation. It is non-contagious, for no large number of individuals suffer at the same time and in the same locality. 3. The consideration which goes furthest to negative the hypothesis of cancer causation by an extraneous micro-organism is the fact that the secondary metastases always involve a reproduction not merely of the particular cells concerned, but of their original arrangement and functional characters. The parent tissue in which the cancer process began is thus exactly mimicked by all the secondary deposits far and near. The familiar breast scirrhus, producing multiple nodules in the subcutaneous connective tissue, in each copies exactly the acinar structure of the mammary parenchyma. The metastases of a rectal cylindroma, frequent in the liver, reproduce the follicular composition of the primary lesion, developed from Lieberkühn's follicles. Pigment-secreting cells in melanotic cancer continue to secrete melanine throughout all the very numerous visceral offshoots of that widely disseminated species. No known micro-organism can effect anything in the least resembling this. The bacilli of tubercle or leprosy stimulate to proliferation the cell elements of the tissues amidst which they arrive, but do not transport cells, which retain their functional endowments and original mode of distribution, bodily from one region to another.

[15] Vide THE LANCET, Oct. 15th, 1892.

An Address

ON

THE RESULTS OF THE OPERATIONS OF VAGINAL HYSTERECTOMY AND SUPRA-VAGINAL AMPUTATION OF THE CERVIX FOR CANCER OF THE UTERUS.[1]

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GENTLEMEN,—A distinguished American physician, Dr. Jackson, in his Presidential Address delivered at the meeting of the American Gynæcological Society held at Brooklyn in 1891, took occasion to allude to certain abuses which had crept into the practice of gynæcology. One of these was the alarming extent and frequency to which, through the beneficial but seductive agency of antiseptics, surgeons have been tempted to resort to dangerous and mutilating operations on the sexual organs of women. That such abuses have existed in the past there can be no doubt, but I believe that the time has now arrived when gynæcologists have discovered that much may be done without having recourse to such radical measures as some, especially some of the continental gynæcologists, have thought to be necessary. I allude in this paper to the wholesale performance of vaginal hysterectomy; this operation has been performed on the Continent not only for cancer of the uterus but also for uterine dis-

[1] Presidential Address delivered before the Members of the British Gynæcological Society on Feb. 9th, 1893.

placement and prolapse of the organ. The immediate mortality after total extirpation of the uterus by these surgeons is reported to have decreased to about 10·5 per cent. as a general average, whilst certain operators claim to have succeeded in reaching a death-rate as low as 3 or 4 per cent. But how can these statistics be relied on if it be true that this operation has been performed for affections of the uterus other than cancer? It must be borne in mind in comparing the results of any two operations that such operations must be performed for similar diseases, under as nearly as possible similar circumstances, and on patients whose general condition is practically the same. Now it must be obvious that if operators who claim the excessively low mortality of 3 and 4 per cent. include in their list of cases extirpation of the uterus for displacements, prolapse and other minor affections of the organ, and mix these up with the results of cases of vaginal hysterectomy for cancer—I say it is obvious that these statistics are not reliable, in fact they are utterly valueless and misleading. In comparing the comparative merits of such operations as supra-vaginal amputation of the cervix uteri for cancer and total extirpation of the uterus for the same disease, not only must the immediate mortality after the operation be taken into consideration, but also the state the patient is left in after the operation. Now, in dealing with this comparison, we must compare only those cases in which the operation has been performed for cancer, we must have no watering down of statistics by the addition of operations which have been done for minor ailments. We must also of necessity confine our remarks to those cases in which the disease is limited to the vaginal portion of the uterus, as it is obvious that if the body of the uterus is involved the high operation is not practicable, and the only operation that can be practised with any hope of relief must be that for total extirpation of the organ.

Let us for a few minutes examine into the different dangers which may follow total extirpation of the uterus; they are by no means either few or trivial. Intestinal obstruction has been met with on several occasions after vaginal hysterectomy, the result of adhesion of a loop of intestine to the edges of the wound, caused by the removal of the uterus. In the *American Journal of Obstetrics*, vol. xxiii, Dr. Coe has reported two cases which occurred in his own practice and eight which he collected from other sources. In all of these laparotomy was performed for the relief of the obstruction, with fatal results. The pathological conditions and clinical symptoms were almost identical in these cases; in each there was an adhesion of one or more coils of intestine to the edges of the vaginal wound, with distension and bending of the gut above the point of adhesion, thus obstructing the lumen. Although there was intense congestion of the serous coverings of the intestine, in neither instance was general peritonitis found at the operation. In all but one case death seemed to be due primarily to exhaustion, or in those cases in which laparotomy was performed to the shock of the operation. The symptoms continued indefinite until the fourth day, and the classical symptoms of intestinal obstruction, especially fæcal vomiting, appeared when it was too late to profit by them. Dr. Cullingworth, in giving the subsequent history of four cases of vaginal hysterectomy, says that two of the patients enjoyed perfect health until within a few days of their death. In each of these cases death resulted from intestinal obstruction, the cause of which in one case remains unknown, and in the other it was due to pelvic adhesions.

Professor Reichal,[2] in an article on "Ileus after Vaginal Hysterectomy," reports three cases of intestinal obstruction. In the first case the patient on the fourth day after operation showed symptoms of obstruction, which increased until the seventh day, when laparotomy was performed, the patient dying on the table. The lower portion of the ileum was attached to the vaginal wound. In the second case the patient began to vomit soon after the operation. There were no flatus or fæces and on the eighth day fæcal vomiting occurred. Laparotomy was performed on the ninth day and a coil of ileum was found to be attached to the vaginal wound. Death occurred twenty-four hours after the operation. In the third case the patient on the third day had bad colicky pains, death from collapse taking place on the eighth day. At the necropsy coils of intestine were found adherent to the edges of the vaginal wound. Other cases have been reported by Dr. Bokelmann,[3] Dr. Leopold,[4] and Dr. Landaw,[5] death resulting in each case. Later cases have been reported by Dr. Coe.[6] This accident of intestinal adhesion to the raw surfaces seems to be more frequent when forceps are used to control hæmorrhage than when the ligature is used.

A second source of danger in this operation is met with chiefly in those cases in which the disease has extended somewhat laterally, from the risk of either dividing the ureters or including them in the ligature or forceps applied to the broad ligament to arrest hæmorrhage. Any surgeon who has performed vaginal hysterectomy frequently is well aware of this danger, and there are few who could not recall cases in which this accident has happened to them; there are several such cases recorded.

Vesico-vaginal or recto-vaginal fistulæ are by no means so rare as might be supposed after total extirpation of the uterus; there are several cases on record, and these could be, I think, considerably increased if all such accidents were reported. Vesico-vaginal fistulæ are especially liable to occur in those cases in which the disease is somewhat extensive and the pelvis contracted, necessitating a good deal of force to enucleate the uterus. This catastrophe does not sometimes declare itself for some days after the operation; but when the slough becomes detached the surgeon to his horror on visiting his patient finds urine trickling out of the vagina. Often the opening is so high up that it is difficult to locate the exact seat of the urinary fistula, and I need hardly point out that in these cases the hopes of closing the fistula must be very small. Another source of danger is peritonitis, especially in those cases where the parts are of necessity much dragged and torn. Sepsis again is answerable for many of the deaths, and lastly severe and alarming hæmorrhage often takes place.

In referring to the statistics of the result of total extirpation of the uterus Dr. Paul F. Munde and Burke, in a most instructive paper,[7] have reported 492 cases in which the operation was performed by several operators, the immediate mortality averaging 10·5 per cent. in all cases. The comparison of the operation when performed by different methods is very instructive; thus the mortality, when ligature alone was adopted, is as low as 6·6 per cent., when the ligature and clamp were used it rose to 11·5 per cent., and when the clamp alone was the method employed for controlling the bloodvessels the deaths still further increased to 16·6 per cent. This large difference in the death-rate seems to be accounted for by the cases in which the ligature alone was used being those in which the disease was limited and the uterus readily drawn down out of the vulva. In such cases the high operation would, in my opinion, have been equally efficacious. It would thus appear that the higher rates of mortality might have been accounted for, more by the extent of the disease than by the method adopted of securing the vessels.

In a recent discussion[8] upon the relative merits of vaginal hysterectomy and supra-vaginal amputation for cancer of the uterus which took place at the Obstetrical Society opinions seemed to differ materially, but the weight of the argument appeared rather to tend in favour of the lesser operation. Dr. William Duncan, alluding to the mortality after total extirpation, referred to the series of cases of total extirpation reported by Professor Japp Sinclair and observed that his mortality was certainly as small as that of supra-vaginal amputation. One cannot but think that Professor Sinclair must be excessively careful in his choice of cases, as the results of such experienced operators as Drs. Martin (Berlin), Fritsch, Schroeder, Gusserow and others do not show nearly such favourable results. It is true that Drs. Kaltenbach and Leopold admit to a mortality of only 2·5 per cent. and 5 per cent. respectively. It is difficult in the extreme to reconcile the different rates of success obtained by these surgeons; but my own experience certainly tends to the belief that the mortality—if all cases were reported—may be placed really at from 15 to 20 per cent.

Dr. Coe, in an article on the Limits of Vaginal Hysterectomy for Cancer of the Uterus, refers to 19 cases operated upon by himself and Dr. Hunter, in which the following results are given: Died, 6; recurrence within a month, 1; recurrence within seven months, 2; within six months, 3; lost sight of, 1; well at end of ten months, 1; too soon to determine results, 3. Drs. Terrier and Hartmann[9] give details of a series of 34 vaginal hysterectomies with eight deaths—viz., 1 from hæmor-

[2] Zeitschrift für Geburtshülfe und Gynäkologie, Band xv., Heft 1.
[3] Archiv für Gynäkologie, Band xxv., Heft 1.
[4] Ibid., Band xxx, Heft 2.
[5] Berliner Klinische Wochenschrift, 1888, No. 10.
[6] Annual Journal of Obstetrics, vol. xxxiii., p. 469.
[7] Annual of Universal Medical Science, vol. ii., 1891.
[8] THE LANCET, vol. i. 1893, p. 87.
[9] Revue de Chirurgie, April, 1893.

ehage on the seventh day; 2 from shock and hæmorrhage in forty-eight hours; 2 from shock on the third day; 2 from peritonitis (in one of these a pair of forceps had pinched a loop of intestine, causing perforation, and in the other the uterus was everywhere adherent); and in the last case death resulted from phlebitis fourteen days after operation. In considering the ultimate results these physicians report 2 cases as well without any recurrence after six years and four months and 1 after four years and a half; in the others relapse occurred—in 8 cases at periods between one month and two years, in 1 case in two and a half years, and 3 are free from disease at the time of report at periods varying from eight months to three years after operation; 3 cases were incomplete, in one necessitating the opening of the cul-de-sac and bladder and 2 have suspicious nodules at the side of the vagina. The conclusion arrived at is that relapse is frequent in about 70 per cent. and often rapid, but may not manifest itself by signs noticeable to the patient until after a considerable time; 30 per cent. of those who survive seem to be completely cured. Dr. Bouilly,[10] at the Société de Chirurgie, reports 30 cases on whom he had operated in 1888, with 7 deaths; since then he had done 20 others, making 50 cases in all, with 16 deaths; amongst the 34 recoveries 6 have remained well for periods varying from fifteen months to four years. Two patients had recurrence after three years; 4 died after two years and 4 have been lost sight of. Amongst the 18 remaining recurrence had been noticed in from eight months to two years. Dr. Reed,[11] in supporting the operation of total extirpation, records a series of 25 cases in which he had operated, with 2 deaths immediately resulting from operation, 2 deaths from recurrence within two years and 1 death from recurrence within eleven months. The previous duration of the disease is recorded in the 13 last cases of the series as being from two to five months only; in none of these was there recurrence. In a previous series of 10 cases, in which the disease is reported to have lasted from seven to sixteen months, 2 died; 1 had recurrence in twenty months, 1 in two years and in 2 the broad ligaments were involved. Dr. Boldt[12] in the same journal says that, if it can be positively shown that the cancer is limited to the portio vaginalis or lower part of the cervix proper, then total extirpation per vaginam would be contra-indicated. He records 44 operations with 3 deaths the immediate result of operation: 1 from probable ligature of the ureters; in 8 cases recurrence took place; in 10 it was too early after the operation to report remote results; 1 patient died from myo-carditis and in 1 the disease recurred at once and in another within three months. Post[13] in 700 cases of vaginal hysterectomy he had collected asserts that the mortality after the operation is 24 per cent. Dr. Florian Krug[14] of New York gives us his personal experience as regards vaginal hysterectomy. He is strongly in favour of total extirpation in suitable cases and reports 15 cases in which he had performed the operation during three years. Two of these were done for non-malignant disease of the uterus and one for a doubtful case of malignancy, thus reducing the number to 12 cases. One of the patients died from the operation, and one had a recurrence five months after the operation. All the others are reported as having had no recurrence and as being in perfect health. Nine of the patients had, however, only been operated on from three to sixteen months before the reading of the paper—too short a time for giving any reliable information as to recurrence. From the few cases in which Dr. Krug has operated it is evident, as he points out, that he only operates in those cases in which he, after careful examination of the patient under narcosis, is quite sure that he can remove the whole of the diseased tissue; he says that whenever the removal of all diseased tissue is impossible vaginal hysterectomy is not indicated; and if recurrence takes place soon after it has been performed it only goes to show that cancerous foci have been left behind. He then goes on to describe his method of operating, which is based upon the importance of absolute asepsis and cleanliness. To obtain this he invariably subjects his patients to examination under narcosis and at the same time thoroughly curettes the uterine cavity in corporeal cancer or removes the soft sloughy tissue with the sharp spoon or scissors in cases of cervical epithelioma. The cautery is then freely applied and for about a week or so vaginal douches are given and sometimes tannin and iodoform powder are applied, until a clean surface is obtained. Directly before the secondary operation he thoroughly scrubs the vagina with mollin containing 10 per cent. of creolin by means of a brush. He then proceeds to remove the uterus. He further lays great stress on the treatment of the stump and prefers the ligature to the clamp. The stump is to be inverted towards the vagina and the peritoneal wound carefully packed with iodoform gauze, which may safely be left *in situ* for eight days. Dr. Martin,[15] at the International Congress at Berlin, pertinently remarked that of 214 patients operated on successfully by Drs. Leopold, Schroeder, Fritsch and himself only five were living at the end of four years. So far as the radical cure of cancer of the cervix by extirpation of the entire organ was concerned, he stated that a hundred women with cancer will live a greater aggregate of years if left alone than if subjected to hysterectomy, and to this doctrine Dr. Coe agreed.

We will first consider the class of cases of cancer which are suitable for this operation. This can be summed up in a few words. Vaginal hysterectomy may be performed on those cases in which, when seen early, the disease is found to be limited to the external os, or the cervical portion of the uterus; if the vaginal walls are only slightly implicated, this would not contra-indicate the operation. The uterus in such cases is freely movable and readily drawn down to the vulva. Such cases in my opinion are suitable also for the high operation. If I can show that as good if not better results can be obtained by the minor operation as are claimed for the major operation I think I shall have proved my case. First, then, as to the immediate risks of the high operation to the patient, they may be summed up as being limited to (1) hæmorrhage and (2) sepsis. With respect to hæmorrhage I have seen cases in which very smart bleeding has occurred during the performance of the operation; this can usually be readily controlled by passing a ligature round the uterine arteries or by the free application of the cautery. In some cases secondary hæmorrhage has caused trouble, but in such the bleeding can invariably be arrested by plugging the vagina. From the second danger—that of sepsis—I have lost one patient, which no doubt was the result of sepsis, or rather from pelvic cellulitis. To avoid this care should be taken to plug the cavity created by the removal of the diseased cervix with iodoform or mercuric gauze and not to remove this for the space of three or four days unless the temperature warns you to remove it earlier. After the removal of the plugs the vagina should be constantly kept syringed out through a full-sized Fergusson's speculum twice or three times a day with some antiseptic solution.

With regard to the method of performing supra-vaginal amputation, there are two or three different plans advocated by different surgeons who practise this operation, some advocating the use of the galvano-cautery, whilst others prefer the knife or scissors. Dr. Baker[16] in reporting two series of cases, says that in the first, covering a period of five years ending 1882, he had operated on 12 cases of cancer of the uterus by the high operation, and in the seven subsequent years he had operated on 16 cases by the same operation. Of the first series 50 per cent. remained well at the end of twelve years; in one case he had to reopen the cervix for the escape of retained menstrual blood. In the second series, operated on from 1882 to 1889, in all 16 cases he had no death from the operation and in 10 cases no recurrence of the disease. One case was well at the end of seven years, 3 were well at the end of six years, 3 at the end of three years, and 1 was well at the end of two years. 53 per cent. were well at the time of his reading the paper; the remainder had died of recurrent disease. These operations were done by the removal of the diseased tissue with scissors or the scalpel, the cautery being applied to the raw surface. Dr. Neamy[17] of Cincinnati, in reporting a number of cases, also strongly advocated the use of scissors or the scalpel; he was in the habit of closing the wound in the vagina with sutures and so obtaining primary union. In our own country Dr. John Williams[18] also strongly advocated the removal of a conical piece of the uterus with scissors beyond the cancerous tissue. Dr. John Byrne[19] advocates the high operation being performed

[10] Ibid., January, 1892.
[11] American Journal of Obstetrics, vol. xxvi., p. 890.
[12] Ibid., vol. xxvi.
[13] Ibid., November, 1887.
[14] Ibid., vol. xxiv., p. 796.
[15] Report of International Medical Congress. Obstetrics Branch, 1890.
[16] American Journal of Obstetrics, vol xxiv., p. 1224.
[17] Gynæcological Transactions of America, vol. xiii.
[18] Harveian Lecture, THE LANCET, Jan. 1st, 1887.
[19] Brooklyn Medical Journal, vol. vi., p. 744.

by the galvano-cautery. He says there are only two surgical measures worthy of mention to choose between at the present day—these are, firstly, the high amputation or excision, as the case may be, by galvano-cautery, not only of all diseased parts but as much more and beyond the supposed danger-line as can be safely taken away, the removal to be followed by a thorough dry-roasting of all exposed surfaces; or, secondly, vaginal hysterectomy. Dr. Byrne's statistics certainly are most brilliant; in nearly 400 cases he has not had a single death due to operation; amongst them 40 out of 63 cases of cancer of the portio vaginalis, 23 having strayed away. Periods of exemption from the disease are reported ranging from two to twenty-two years, being an average for each case of over nine years. Of 31 cases involving the entire cervix 31 were lost sight of, 10 relapsed within two years, 5 had no recurrence for two years, 11 for three years, 6 for four years, 8 for five years, 6 for seven years, 2 for eleven years, 1 for thirteen years and 1 for seventeen years; so of the fifty cases of this class whose histories could be followed up there was an average period of exemption for each of nearly six years. In this country Dr. Lewers[20] only a few weeks since reported at the Royal Medical and Chirurgical Society the result of 19 cases in which he had operated by the cautery, with no deaths; 6 of these had been operated on over two years and were reported as being free from recurrence. At this Society last session[21] I reported 24 cases in which I had performed the high operation for cancer, with only one death; of these 15 were free from the disease at periods varying from one to three years and have enjoyed perfect health. Dr. Gusserow gives the mortality after supra-vaginal amputation at 9·09 per cent. when the knife is used and 7·75 per cent. after galvano-cautery. This would appear from the above remarks to be far above what may be expected, and if suitable cases are selected I am sure the mortality will not exceed 4 or 5 per cent.

I have now placed as clearly as the time at my disposal will permit the result of these two operations. By comparing these results I hope to come to some conclusion as to which is the operation to be recommended in the future. In doing this I propose to compare (1) the dangers coincident to the two operations, (2) the immediate mortality after the operation, (3) the periods of freedom from recurrence, and (4) general results.

1. Amongst the dangers, as I have pointed out, in vaginal hysterectomy, quite a number of patients have succumbed to intestinal obstruction due to some portion of the intestine becoming adherent to the edges of the vaginal wound. Dr. Krug claims that by better attention being paid to the stump this danger may be averted; be it so, yet at present it is a danger which all surgeons must be alive to. Even Dr. Krug nearly lost one patient by this cause, and it was only by his timely intervention in examining the vaginal wound that he found a knuckle of intestine protruding through the wound. He broke down the adhesions with his finger, pushed the intestine back and introduced a plug of iodoform gauze and saved his patient. Should symptoms of intestinal obstruction appear, then, after this operation, no time should be lost in endeavouring to remove the cause. This danger can never be feared after supra-vaginal amputation as the only portion of the peritoneum which is at all likely to be opened is Douglas's pouch, the peritoneal edges of which become glued together and the opening is securely closed within a few hours. The danger of ligaturing or dividing the ureters is a very serious one in the operation of total extirpation as, should the disease extend laterally or the tissues be thickened by inflammatory mischief, it is impossible to recognise the different structures which present themselves, and it is obvious that in passing a needle through these tissues or in applying pressure forceps the ureter may very easily be included. This can readily be understood when the intimate relations of the ureter and uterine artery are remembered. This is a strong argument against performing vaginal hysterectomy when the disease is found to extend laterally, or presumably encroaches on the broad ligaments. In cases of supra-vaginal amputation this danger can never present itself. Vesico-vaginal fistulæ are by no means uncommon after vaginal hysterectomy, especially when the disease implicates the anterior portion of the neck of the uterus; in such cases inflammatory thickening takes place in the cellular tissue between the bladder and uterus, and it can be readily understood how in such cases the bladder may be torn. In cases suitable for the high operation this danger can rarely if ever exist. Peritonitis should rarely be anticipated after either operation if the vagina has been rendered thoroughly aseptic either after the one operation or the other. This misfortune seems to be much more likely to follow vaginal hysterectomy when the broad ligaments are clamped than when the ligature is used. Hæmorrhage both primary and secondary is liable to cause trouble after both operations, perhaps even more so after the high operation, as by the traction which is exercised during the removal of the diseased tissues the vessels become temporarily closed and at the time no bleeding points present themselves. When, however, the remaining portion of the uterus is returned and the pressure relieved, bleeding may take place. This accident no doubt would be less likely to follow if the cervix were removed by the galvano-cautery.

2. The immediate mortality after operation can only be obtained from the statistics which have been published. Dr. Byrne, who has been at much trouble to do this, has collected 1273 cases of vaginal hysterectomy which have been reported and has divided them into different classes according to locality, thus:

Locality.	Operators.	Operations.	Deaths.	Per cent.
Continental	14	944	137	14·5
British	8	74	15	20·0
United States	16	255	34	13·0
Total	38	1273	188	14·6

We may then safely place the immediate mortality after total extirpation as hitherto practised at about 15 per cent. Now if we compare these figures with the results after supra-vaginal amputation we shall find that the result is very much in favour of the latter operation. Dr. Byrne tells us that in 400 cases in which he had performed the high operation by galvano-cautery he had no deaths, and Dr. Lewers, in 19 cases by the same method, likewise records no death. Dr. Baker, in a series of 28 high operations, had also no death. In 24 cases which I have reported I had only one death. The immediate risk, then, from this operation appears to be practically *nil*.

3. The length of time that the patient remains free from recurrence would appear to depend entirely upon degree. This is well exemplified, as by Drs. Terrier, Hartmann and Reed. According to the observations of these physicians, cases in which the disease has been recognised quite early are practically cured by either operation; but, seeing the dangers which beset the major operation and which are absent in the minor, surely it would be wiser to practise the latter.

4. It only remains for me to make a few remarks as to the choice of cases, and in doing this I shall perhaps not be far wrong in recommending surgeons to operate only upon those cases which are seen early and in which the disease is limited to the vaginal portion of the uterus or to the cervix and cervical canal, the uterus being freely movable and the disease not extending laterally along the broad ligaments or the cellular tissue between the peritoneum and the fornix. In such cases, no doubt, the results would be almost as good by adopting the one operation as the other so far as the immediate mortality and chances of recurrence of the disease are concerned; but, taking into consideration the dangers and complication which may follow the major operation of removing the whole organ and destroying the roof of the vagina, I cannot but think that supra-vaginal amputation of the disease will not only maintain its high position, but that many of those surgeons who are at present opposed to it will gradually become converted and will adopt the total extirpation of the entire organ only in those cases in which the disease is situated in the body of the uterus.

Gentlemen, I trust I have not wearied you, but in examining into this subject I have endeavoured to the best of my ability to place before you fairly and dispassionately the results obtained by surgeons of all shades of opinion, trusting that we may profit by their experience and in the future be able to bring the results of such experience to so bear upon our practice that the result of the operative treatment of

[20] THE LANCET, June 10th, 1893.
[21] THE LANCET, Dec. 17th, 1892.

cancer of the uterus may occupy a position in the annals of surgery and gynæcology that may prove a triumph of our art and a lasting benefit to thousands of poor suffering women who may seek our aid.

SARCOMA SURROUNDING A CONCRETION IN THE VERMIFORM APPENDIX; EXCISION OF CÆCUM; RECOVERY.[1]

BY HASTINGS GILFORD, F.R.C.S. ENG.

THE sarcoma in this case apparently resulted from a previous appendicitis. It was diagnosed to be a tumour of the kidney, but was found to be a sarcoma which had formed round a fæcal concretion in the vermiform appendix and become attached to neighbouring parts. It was removed, together with the cæcum and adjacent parts of the colon and ileum, through a lumbar incision. The patient was a married woman aged twenty-seven, who had never had any serious illness, but had suffered since the age of fourteen from occasional attacks of coldness, pallor and numbness of the right lower extremity. These had come on at varying intervals, had lasted from a few hours or days to as many weeks, and had been sometimes accompanied with shooting pains in the limb, with a feeling of weakness. She had occasionally obtained relief by rubbing or bandaging, but there had never been any swelling or varicose veins. These symptoms had been confined to the right lower extremity, and there had been neither pain nor tenderness nor fulness in the abdomen or groin, nor could she remember ever having had either shivering or fever; but her appetite had been liable to fail, and her friends remarked that she frequently alternated from a condition of good health and fair development to one of thinness and ill-health. She had on two occasions been compelled to give up good situations as a domestic servant on account of the pain, and had frequently been obliged to walk with the aid of a stick because of the weakness of her thigh and leg. When not already present, the symptoms were invariably induced by the onset of menstruation and tended to abate somewhat as the period passed off. She had always been subject to constipation and had also suffered from occasional bilious attacks since childhood, but these were not as a rule associated with the above symptoms. I attended her in August, 1892, when she was eight months pregnant with her second child. She then complained of agonising pain in the right hypochondriacal and lumbar regions. It seemed to bear no relation to the contractions of the uterus, there was no "show" or dilatation of the cervix, and the temperature was 101°, whilst the patient vomited everything that was given to her. Half-grain morphia suppositories temporarily removed the symptoms, but they returned as the narcotism passed off. After lasting for three days the pains altered completely in site and character, labour set in, and the patient was speedily delivered of a feeble eight months' child, which died a few hours afterwards. The next day she began to vomit again, the skin became jaundiced, and the liver extended two fingers'-breadths below the margins of the ribs. I therefore gave her five grains of calomel, which purged her three times, and she rapidly recovered. She said this was one of her usual bilious attacks. My opinion of the nature of this case at the time was at first that it was one of uterine cramp, but afterwards I thought that the seat of the pain, its sickening nature and the concomitant symptoms, pointed rather to pressure of the growing uterus against the right kidney, and when the uterus had emptied itself I examined the loin to discover whether this was the case and thought that my diagnosis was confirmed; I felt that kidney apparently much more plainly than the left, and it also appeared to slip from under my finger, the patient complaining of a sickening pain as it was pressed. I did not see her again until Jan. 30th of this year, when she came to me complaining of pain in the region of the umbilicus, extending round to the loin and down to the groin and thigh. It was increased by sudden shocks or jars of the body, as in tripping over a carpet, but was present sometimes when she was sitting or lying still and was now and then very severe and persistent. Micturition was normal, but the urine was loaded with urates, though it never contained blood. There was no nausea or sickness and the bowels were, as a rule, regular. She had become thinner since her confinement. On examination the abdominal muscles were found to be too rigid to permit of satisfactory manipulation, but it was at once evident that a growth was present in the region of the right kidney; that organ appeared to be uniformly enlarged, but to be situated on a lower level than usual, and its surface was distinctly nodular. I diagnosed sarcoma of the kidney, and thought that the growth was seated either in a kidney which had been previously displaced or that it had so enlarged a normally situated kidney as to cause it to be readily displaced by the distended uterus during her recent pregnancy. This opinion appeared to be supported by the fact that deep pressure on any part of the tumour elicited the same sickening sensation as when the sound kidney was pressed. Subsequent examination of the urine caused me to doubt the correctness of this diagnosis. She had four attacks resembling mild renal colic, and on one of these occasions the urine became suddenly clear and normal, though both before and afterwards it was thick with urates. There was also usually a faint trace of albumen and on some occasions I found round cells resembling pus cells and likewise granular structureless masses quite different from the amorphous urates which were present with them. There were no blood discs. Her temperature varied from 99° to 101°. From these facts and also because she had been rapidly wasting and from a sister having died of phthisis, I judged that she might be affected with tuberculous disease of the kidney. On the other hand, she had no tuberculous mischief either in the lungs or Fallopian tubes or elsewhere. The abdominal muscles were too rigid to permit of satisfactory examination without an anæsthetic. It seemed to me to be a case in which chloroform should be given for the purpose of assisting diagnosis, whereupon preparations should be made to operate if the examination indicated its necessity. In this opinion Dr. Moody-Ward, who saw her with me, concurred. On Feb. 13th chloroform was given by Mr. Truman, and the growth was examined by Dr. Moody-Ward and myself and found to be a hard, fixed, nodular mass apparently originating in the kidney. I therefore proceeded to cut down upon that organ by the usual lumbar incision, but it was found to be perfectly sound for the upper three-fourths of its extent, the growth apparently springing from its lower fourth and partially ensheathing it. The incision was then extended down to the crest of the ilium so as to form a T-shaped opening; but as the mass was found to be attached still lower, this was again extended along the crest for three inches and the flap thus formed was pulled forward. It was now ascertained that the tumour was bound down to the iliac fascia below, to the psoas behind, to the capsule of the kidney above, and to the cæcum and termination of the ileum within. It was first separated from the kidney by peeling it off, together with the piece of capsule to which it was attached. The adhesions to the iliac fascia were next torn through with the fingers or cut through with scissors, and the tumour was then separated from the psoas, a piece of that muscle being removed with it. The external cutaneous and ileo-inguinal nerves passed through the growth and about four inches of each were removed; but the ureter though apparently pressed upon was not infiltrated by it. The tumour and bowel were now dragged together out of the wound and the former was cut into in order to examine its appearance. Pus immediately escaped from the opening and at first I thought that the mass must be a simple inflammatory induration, but further inspection showed that it presented the characteristic appearances of sarcoma. A ligature was now passed round the cæcum and then round the ileum, and the mesentery and other attachments of the included bowel were carefully dissected up until a pedicle containing the chief bloodvessels running to the parts alone remained. A silk ligature was put round this and the growth and a portion of gut between the ligatures were removed, the largest artery being found to be of the size of the radial at the wrist. The cut end of the colon was now dealt with by first removing another inch and the attached half of its diameter was then cut obliquely, whilst the other half was allowed to remain straight. The former part was then closed with a continuous medium-sized chromic gut suture running through all the coats. A further inch of small intestine was next cut off, and the end was united to the un-

[1] A paper read before the Reading Pathological Society.

closed end of the colon. In this way the colon was made to lead off gradually from the ileum, instead of being formed into a new cæcum. The same continuous catgut suture was used for all parts—first to sew up the attached half of the colon and ileum, then to sew together the peritoneal coats of the two intestines and of the portion of colon first dealt with, and finally to unite the cut ends of the mesentery. A fresh search was now made for other growths, but with the exception of a small nodule low down in the psoas, which was removed with the adjacent muscle, no further growths could be found. The neighbouring peritoneal surfaces were now washed with boiled water, and a large bulbous glass drainage-tube was put in with its bulbous end in contact with the united bowel and its free end brought out of the upper and posterior angle of the wound. The wound was dressed with sal alembroth wool after being united with silk sutures. The operation lasted two hours and the patient was very collapsed when put to bed. The next day she began to retch and vomit most distressingly and complained of much pain in the inguinal and hypogastric regions. The dressings were soaked with peritoneal fluid with a small quantity of blood. On the third day the patient was sick and jaundiced and the tongue was red and irritable. The vomit consisted of light green fluid and she was therefore turned half over on to her right side in order to prevent the regurgitation of bile from the duodenum, with very good effect. On the fourth day the opium, which had hitherto been given in one-grain doses every six hours, was stopped and the bowels acted naturally and loosely in the evening. She had up to this time been fed with iced milk and soda-water or with Trousseau's "eau albumineu" (white of egg, sugar and nutmeg in water), of which she greatly preferred the latter, as being pleasanter to the taste and causing less nausea. Tea and bread-and-butter or toast were now given. The bowels continued to act naturally, except on the sixth and eleventh days, when enemas were administered. She twice complained of griping pains in the lower part of the abdomen, which were attended with flatulence and vomiting, on one occasion immediately after an enema had been successfully given, but these alarming symptoms passed off without causing further trouble. The sutures were taken out on the seventh day, as they were causing some irritation and were also cutting through the skin over the crest of the ilium, owing to the tension produced by the projecting bone. The same effect was also produced by certain fidgety movements of the right thigh and leg, which the patient seemed unable to completely restrain. She was induced to make them by the numbness in the regions supplied by the external cutaneous and ileo-inguinal nerves, which she mapped out with precision. She also spoke of an unpleasant aching sensation in other parts of the limbs. Her temperature did not rise above 99·5° except on the fourth day, when it reached 100·8°, but it rapidly sank to normal after the cutting of a suture. The lower anterior angle of the wound became septic on the eighth day from the shifting of the dressings produced by her movements and suppurated a little. The lips of the wound also separated in places, but were so insensitive that a few fresh sutures were introduced without giving rise to much pain. Strapping was now used to support the parts, and the whole of the wound had healed by the eighteenth day. The drainage-tube was not finally removed until the eighth day, for on the third day the discharge, which had greatly diminished, became more profuse and somewhat purulent; it also had a faintly fæcal odour. It was thought that this might be produced by the tube pressing on the united ends of the bowel, so as to cause a slight separation, and after the tube had been withdrawn for an inch the odour gradually ceased, but not until the discharge had become brownish in colour. The wound was now dressed every four hours, and a smaller tube was inserted to replace the large one. As the discharge diminished the tube was gradually withdrawn. Her diet after the first four days was farinaceous; but fish and eggs were permitted after the seventh day, and at the end of three weeks, when she began to sit up, her food was unrestricted, except that attention was given to make it of a relaxing nature.

She is now (six months after the operation) in good general health and has improved greatly in weight and appearance. Her urine was clear for six weeks after the operation, but has since occasionally deposited urates. No sign of a return of the growth can be detected by manipulation; indeed, that the cæcum has been removed is at once suggested from the hollowness of that part of the abdomen when the fingers are pressed into it. There was great weakness in the right thigh after the operation and for the first three weeks after rising from bed she could not walk without supporting herself by grasping the furniture. Much of this weakness I imputed to the removal of a portion of the psoas muscle. She has had none of her attacks of pain and numbness down the right lower extremity since the operation and has had no bilious attacks, but has menstruated regularly ever since. Sensation gradually returned in the areas supplied by the divided nerves until a month after the operation it was normal. The parts removed weighed altogether nearly eight ounces and included four inches and a half of the cæcum and ascending colon and three inches and a half of the ileum. Running up behind the cæcum and with a direction to its inner side was the vermiform appendix, which was covered by the peritoneum only at its commencement. On cutting into the growth three or four small collections of pus were laid open, and in one of these situated near the middle of the mass was a dark-brown friable concretion of the shape of a cherry stone, but almost twice its size and evidently of the composition usual in such concretions. A probe passed into the cavity in which it was contained passed down the vermiform appendix into the cæcum, a distance of two inches. The growth forming the walls of these abscess cavities presented the appearance of sarcomatous tissue and was intimately adherent to the walls of the colon on the one hand and of the ileum on the other, but in neither case did it protrude into or otherwise narrow the lumen of the bowel or involve the mucous membrane. Microscopical examination of the growth showed it to consist principally of large oval or spindle-shaped cells, and the opinion of the members of the Reading Pathological Society who examined it was that it was unmistakably sarcomatous.

Remarks.—There are many points of great interest in this case. There can be little doubt that inflammation had existed round the vermiform appendix for thirteen years and that it had been of such a chronic nature as to give rise to no characteristic symptoms. The same fact is also to be partially accounted for by the site of the appendix behind the cæcum and well away from the peritoneum. The growth appears likewise to be an interesting example of the gradual transformation of inflammatory cells into sarcoma cells as the result of prolonged irritation. I was surprised to find how rare is cancer of this locality, for when the frequency with which concretions elsewhere give rise to cancer is considered it appears strange that after a most careful search I have not been able to find a single satisfactory instance recorded of cancer of the vermiform appendix. The nearest approach to it is a case of Thiersch's[2] in which a tumour of the abdomen of the size of a fist proved on operation to be an adeno-carcinoma, a swelling as large as a walnut being formed at the junction of the vermiform process with the cæcum and the appendix itself being greatly dilated. The cæcum and a piece of the ileum were excised, and the patient died thirty-six hours later. Although I have no experience whatever of the usual anterior incisions employed in excision of the cæcum, and of which no less than four methods are mentioned by different operators, yet I think that if I ever again meet with a similar case I shall prefer the lumbar incision. It permits of free exposure of the tumour and adjacent regions, interferes as little as possible with the peritoneum, and facilitates free drainage with the patient in a recumbent position. It also suggested to me that a lumbar incision might be the most useful one in the operative treatment of some cases of appendicitis.

Reading.

GANGLION: TWENTY-FIVE CONSECUTIVE CASES SUCCESSFULLY TREATED.

BY H. MARTYN JORDAN, F.R.C.S. ENG., L.R.C.P. LOND.

THE frequency of this affection, the many failures after the present modes of treatment and the comparative absence of any literature on the subject[1] are my reasons for this somewhat lengthy article, added to which I am able to publish twenty-five consecutive cases which nearly two years after I had operated upon them had had no relapse. The term "ganglion" has been somewhat loosely applied to two very distinct affections: in the first place, to the development of

[2] Berliner Klinische Wochenschrift, 1882, vol. i., p. 41.

[1] Mr. Barwell, in THE LANCET as long ago as October, 1858, said: "Few surgical diseases have been so little studied," and the same statement still holds good.

a cyst in immediate connexion with a tendon; and, in the second, to an acute or chronic inflammation of the synovial sheath itself.[2] The term "teno-synovitis" is far preferable for the latter condition. Ganglia have been divided clinically into (1) simple and (2) compound ones; but the so-called compound ganglion is in fact a dilatation of the tendon sheath (or more commonly the palmar bursa) due to a chronic teno-synovitis (or bursitis). In this paper I shall confine myself entirely to the former, or true, ganglion. A ganglion is a small cyst in connexion with the sheath of a tendon. It varies in size from a pin's head to a walnut. The sac consists of a fibrous capsule lined internally by synovial membrane. The contents vary greatly in consistency and colour—from a clear, transparent or slightly pinkish fluid to a deep yellow or pink substance so viscid that at times I have had considerable difficulty in getting it to flow through an aspirating needle. Usually it has the consistency of ordinary synovial fluid with a faint pink colour. Ganglion occurs as a smooth, round or oval-shaped tumour with an elastic feel, often very tense. It is unconnected with any of the more superficial structures, but is fixed to the tendon sheath. In its growth (which is usually very slow) it may press upon the cutaneous nerves, giving rise to pain, which is of course referred to the area to which the nerves are distributed. There is always some weakness and stiffness of the part, which are generally much increased by prolonged use of the limb. In some cases a particular movement "locks" the joint—this is especially the case in the small ganglia of the flexor tendons. By far the most frequent situation for it to occur is at the back of the wrist in connexion with the tendons of the extensor communis digitorum; it also occurs on the dorsum of the foot in connexion with the tendons of the extensor longus digitorum. I have seen cases where it arose from the sheaths of the peronei, the extensor carpi radialis longior et brevior,[3] the extensor secundi internodii pollicis[4] and the flexor longus pollicis. A very small and troublesome form connected with the flexor tendons of the fingers, generally on the proximal phalanx, varying in size from a pin's head to a small pea, firmly attached to the sheath and very tense, has at times been confounded with a small exostosis or enchondroma.[5]

Ganglion has been supposed to arise in one of the following ways: 1. Billroth believed it to commence as a pouch-like protrusion of the sheaths, the neck gradually becoming narrowed until at last all communication between the inside of the pouch and the sheath is cut off. 2 Paget looks upon it as a cystic degeneration of cells of the synovial fringes within the tendon sheath. 3. Distension of one of Gosselin's[6] "subsynovial bodies" or, after obliteration of the orifice, one of his "synoviparous crypts or follicles" (prolongations, or culs-de-sac of the synovial membrane). 4. A hernial protrusion of the synovial membrane through a slit or rent in the fibrous sheath; the neck of the sac being compressed by the tight sides of the rent in the sheath, a plastic inflammation is set up obliterating the neck, and the sac is thus shut off from the rest of the synovial cavity. I believe the correct explanation in almost all cases is the last, or the hernial, origin, and for the following reasons: (1) The affection is much more frequent in those persons who occasionally have hard manual work to perform, especially so amongst washerwomen, charwomen, &c., who have at times a considerable amount of "wringing" to do[7]—the very kind of work that would be likely to lead to a hernia of the synovial membrane; (2) as far as my cases go its first appearance is sudden and painful, often with a history of an exceptionally hard day's work immediately preceding it; (3) from careful dissection I believe the fibrous capsule to be formed by the areolar tissue being stretched in front of and over the slowly growing tumour, and not by an expansion of the fibrous sheath, as would be the case were either Paget's, Billroth's or Gosselin's theory correct; (4) the sudden and painful commencement is inconsistent with Paget's or Gosselin's belief; and (5) if Billroth's view were correct, it would be possible in the early stage of the affection to compress the contents of the sac back into the sheath, but this has proved impracticable even in cases quite in their infancy.

[2] Erichsen, vol. ii., p. 500.

[3] Mr. Hill (in the Medical Times and Gazette of Oct. 24th, 1868) mentions cases where it arose from these tendons.

[4] Ibid.

[5] Jacobson: Brit. Med. Jour., vol. i. 1879, p. 217.

[6] Gosselin: Mémoires de l'Académie Nationale de Médecine, tome xvi., p. 818.

[7] Mr. Hill (in the Medical Times and Gazette of Oct. 24th, 1868) mentions four cases where this was referred to as the cause, and it was so in many of my cases.

The treatment of ganglion has been marked by more ingenuity than success[8] and will now be briefly described.

1. *Rupture.*—The ganglion is rendered as tense as possible (by flexing the wrist when the cyst is connected with the common extensor), and with the surgeon's two thumbs pressed as powerfully as possible one over the other an attempt is made to rupture the cyst; if this is unsuccessful, pressure of a heavy book or a sharp blow may succeed. When ruptured an apparently instantaneous cure has been effected, but the tumour in the vast majority of cases returns. But this is only what one would expect; the pressure on the fluid contents of the cyst causes a rent in the capsule, the fluid is forced out into the surrounding tissues, the ganglion collapses and the sides of the rent come into apposition and speedily unite, leaving a closed sac lined by healthy synovial membrane.

2. *Electrolysis.*—Dr. Adolphe Wahltuch reports six cases where he employed electrolysis.[9] After each operation there was some painful swelling and inflammation, which gradually subsided.

3. *Puncture and scarification.*—A valve-shaped opening is made into the cyst, the fluid is squeezed out, the interior of the cyst is carefully and thoroughly scarified, the limb is placed on a splint and gentle pressure is applied. By this method numerous cases have been cured, and it seems on the whole to be about the best of the old methods. Unfortunately it is open to several drawbacks. However thoroughly the scarification may be performed (and success depends almost entirely on this), some parts of the membrane remain untouched and will probably continue the trouble. Great care is necessary to avoid opening the tendon sheath, thus cutting through the parietal and wounding the visceral layer of the synovial membrane, so as to eliminate the risk of adhesions and the resulting stiffness of the fingers. Asepsis must be perfect in every detail or inflammation will most probably spread up the sheath and ruin the hand.

4. *Seton.*—A few threads of carbolised silk, gut or horsehair are passed through the cyst and left in until sufficient inflammation is set up to obliterate the cyst; this is most difficult to determine; if the threads are perfectly aseptic when introduced, and kept so, the inflammation resulting is very slight and is limited to the narrow area actually touched by the seton, with no tendency to spread to the rest of the sac; if septic material gains an entrance (and in practice this is almost invariably the case) then it is extremely difficult to keep the inflammation within bounds and suppuration may extend up the sheath, with disastrous results.

5. *Incision.*—An incision is made into the ganglion, the contents are evacuated, the cavity is then stuffed with strips of gauze and the limb is placed on a splint. In time the cavity granulates up from the bottom. An ugly broad scar is left which is often bound down to the tendon, whose motion it limits, whilst it is drawn about with every movement of the fingers. Perfect asepsis must obtain or the hand may be ruined.

6. *Excision.*—The disadvantages of the above methods and their frequent failure led many surgeons to adopt excision, and there are many now who advocate its performance in all cases. A longitudinal incision is made over the tumour; this is carried carefully down to the capsule, which is freed from surrounding structures—without, if possible, opening the cyst—and the cyst is then cut away from the sheath and removed. The sheath of the tendon is invariably opened, and so the operation must be performed with every antiseptic precaution or irreparable harm may result. The limb is placed on a splint and the wound is dressed in the ordinary way. A long and often broad scar is left, which is sometimes bound down to the tendon. From the particularly happy results of the method I shall next describe I believe excision is rarely if ever necessary.

7. *Aspiration and injection.*—Aspiration has been tried repeatedly and with an invariable result—the reappearance of the tumour—as after the evacuation of the contents the synovial membrane goes on secreting and the cyst refills. Injection of the cyst with some irritating fluid—e.g., iodine solution, carbolic acid &c.—has been employed, with, as far as I am aware, no beneficial result. Aspiration followed by the injection of an irritating solution may result in little apparent benefit, the reasons being in my opinion threefold: (*a*) The fluid injected is not strong enough to cause sufficient inflammation to alter the secreting membrane in the way mentioned

[8] Vide Ranking's Abstract, second half of 1871.

[9] Brit. Med. Jour., Nov. 4th, 1871.

below, and when the inflammation subsides the membrane recovers itself and its functions; (*b*) the injected fluid is too powerful and it becomes surrounded by a layer of coagulated lymph before it has time to come in contact with all the secreting surface, part of which therefore is cut off from the injection and unaffected; (*c*) the injection is of the right strength and causes inflammation of the synovial tunic, the surfaces of which become covered with layers of plastic lymph, and were these in contact with one another they would unite and the cavity would be obliterated, but this is prevented by the injected fluid widely separating the surfaces. The lymph becomes organised, the synovial membrane as a secreting surface is destroyed, and what is practically a cyst of new formation is left—a fibrous capsule containing the injected fluid, which cannot be absorbed through the dense and but slightly vascular capsule. I have therefore used a moderately strong injection and have endeavoured to get rid of this before the inflammation subsided and the lymph became organised. There seemed to be two ways of accomplishing this: withdrawal of the injected fluid and firm pressure over the tumour. The former appeared less certain, as the inflammation depends upon: (α) The intensity of the irritant; (β) the power of resistance of the tissue; and (γ) the length of time the irritant is applied; and with a moderately strong irritant it were easy to withdraw the fluid too soon, whereas by firm pressure applied immediately after the injection, and maintained, I believed it would be possible to cause the absorption of the fluid before the organisation of the lymph took place, and the result has proved the correctness of this view. The part was in each case scrupulously cleansed. A large hypodermic syringe, with a wide bored needle which screwed on, having been very carefully asepticised, was thrust into the ganglion and the contents were withdrawn—often there was considerable difficulty in getting these to flow through the needle, but experience taught me that this could be overcome by applying firm pressure on the tumour synchronously with the aspiration. The syringe was unscrewed, the needle being left in position, and (to minimise as much as possible the risk of any septic material entering) a piece of lint wrung out of 1 in 20 carbolic lotion was immediately placed over the needle.[10] The syringe was emptied, then filled with Morton's fluid (10 gr. of iodine, 30 gr. of iodide of potassium, and 1 oz. of glycerine) and screwed into the needle, and the sac was partly refilled. The needle was then withdrawn and the tumour freely manipulated in order that the fluid might reach every part. A splint, reaching to the finger-tips, was applied. A thick, tightly-folded pad of lint was firmly strapped over the tumour and the arm was suspended in a sling. The patients were seen on the following day. Only one complained of any pain, and this was due to the strapping being too tight. On the second day the part was in each case inspected; the tumour had disappeared, only a slight fulness remaining, and there was no sign of inflammation and no pain. The pad was replaced. The splint was removed on the fourth or fifth day. By the tenth day all fulness had gone and the pressure was omitted. The patients were kept under observation for periods varying from two to three months, there was no reappearance of the tumour, and in every case the weakness of the limb had vanished. One year and nine months after the operation all the patients were written to, and, with one exception, they all either replied or came to see me. The former all stated that there had been no return of the tumour and the weakness had quite disappeared. The latter had no pain or weakness and the only sign of any previous trouble was a very slight fibrous thickening left in two cases.

In the following table is a list of my cases; the majority of them I operated upon when house surgeon at Guy's Hospital.

[10] In my later cases I omitted this "guard," believing that the iodine in the Morton's fluid would destroy any germs should they gain an entrance.

TWENTY-FIVE CONSECUTIVE CASES OF GANGLION.

Case.	Occupation.	Age.	Duration.	Position.	Quantity withdrawn.	Quantity injected.	Result.	Remarks.
1	Washerwoman	26	7 months	E. c. d.*	½ drachm	15 minims	Cured	—
2	Charwoman	43	1½ year	E. c. d.	1 drachm	½ drachm	,,	Very slight fibrous thickening remaining.
3	General servant	26	6 years	E. c. d.	1 drachm, 20 minims, 15 minims	½ drachm, 10 minims, 10 minims	,,	Multiple. Three on left, one on right wrist; one of the former too small to operate upon. Contents of the largest cyst extremely viscid.
4	Dressmaker	23	9 months	F. l. p.†	½ drachm	10 minims	,,	Left forefinger, opposite first phalanx.
5	Housework	50	—	E. c. d.	1 drachm	½ drachm	,,	Slight pain. Strapping too tight. Very viscid.
6	—	27	1½ year	E. c. d	1 drachm	½ drachm	,,	Viscid. No note of occupation.
7	Dressmaker	45	2 months	E. s. i. p.‡	15 minims	10 minims	,,	Right wrist, just over radio-carpal joint.
8	Housemaid	21	3 months	E. c. d.	20 minims	15 minims	,,	—
9	Shopgirl	19	5 months	E. c. d.	½ drachm	20 minims	,,	—
10	Charwoman	51	4 years	E. c. d.	½ drachm	½ drachm	,,	Very viscid.
11	Housework	22	1 year	—	10 minims	10 minims	,,	Flexor tendon of ring-finger, opposite first phalanx. Large for this form.
12	Washerwoman	32	3 years	E. c. d.	1½ drachm	1 drachm	,,	Had been ruptured twice, followed by speedy return.
13	Charwoman	28	10 months	E. c. d.	½ drachm	15 minims	,,	—
14	Washerwoman	36	3 years	E. c. d.	1½ drachm	½ drachm	,,	Very viscid. Slight fibrous thickening left.
15	Ward servant	41	2 months	E. c. d.	20 minims	10 minims	,,	—
16	Nursemaid	20	6 weeks	E. c. d.	10 minims	10 minims	,,	—
17	General servant	29	2½ years	E. c. d.	½ drachm	20 minims	,,	—
18	Charwoman	31	6 months	E. c. r. l.§	20 minims	10 minims	,,	—
19	Married	25	9 months	E. c. d.	½ drachm	15 minims	,,	When seen 2½ months after operation no sign of recurrence. Only case that did not report herself. Claim this as a cure.
20	Lady	18	1 month	E. c. d.	10 minims	10 minims	,,	Great tennis player.
21	Charwoman	27	4 months	E. c. d.	20 minims	10 minims	,,	—
22	Washerwoman	33	1 year	E. c. d.	1 drachm	½ drachm	,,	Viscid.
23	Athlete	24	3 months	P. l.‖	20 minims	10 minims	,,	Professional runner. Ganglion greatly interfered with livelihood. Reported himself 1 year and 10 months after "as good as ever."
24	Charwoman	40	1½ year	E. c. d.	1 drachm	10 minims	,,	Viscid.
25	Housemaid	22	3 years	E. c. d.	1 drachm	½ drachm	,,	Very viscid.

* Extensor communis digitorum. † Flexor longus pollicis. ‡ Extensor secundi internodii pollicis.
§ Extensor carpi radialis longior et brevior. ‖ Peroneus longus.

Remarks.—As will be seen by the above list, in no less than seventeen of the twenty-four cases where the occupation is stated the patients were charwomen, washerwomen, or house servants; of the remaining seven, one was a great tennis-player, one an athlete, and two were dressmakers. The patient referred to in Case 3 wrote stating that the three "lumps" that had been operated on were quite cured, but the small one that had not been touched was gradually getting larger. The shortest duration of the tumour when operated upon was one month, the longest six years. The least withdrawn was ten minims, the most one and a half drachms. In the majority of the long-standing cases the contents were viscid; in Case 3, in the large and oldest ganglion of the series, they were extremely so and were with the greatest difficulty withdrawn. The advantages of this method of treatment are: (1) No scar; (2) no pain, excepting the prick of the needle; (3) no anæsthetic is needed; and (4) no risk. In conclusion, I may say that the results in these ganglion cases led me to adopt the same treatment in cases of chronic bursitis, where the contents were fluid, with, I am pleased to say, the same success.

Newport, Mon.

PERFORATION OF THE INTESTINE IN TYPHOID FEVER.

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PERFORATION of the intestine as the result of ulceration in typhoid fever is by many writers regarded as of rare occurrence in children. Thus Henoch[1] states that it is rare, and he has himself seen only one example; Vogel[2] speaks of it as being "extraordinarily rare;" Dr. Wilson[3] says it is extremely rare; Meigs and Pepper[4] regard it as being more rare than in adults; Barthez and Sanné[5] speak of it as a rare phenomenon, having themselves only observed four cases; and Goodhart[6] writes: "Death by perforation is one of the rarest modes of termination." On the other hand, Dr. Eustace Smith[7] writes: "When children die from typhoid they die almost invariably from perforation of the bowel and general peritonitis." West,[8] whilst expressing no opinion, says that comparatively few children die from typhoid fever, and he mentions having seen one case terminate fatally from perforation of the intestine. Bristowe,[9] in nine post-mortem examinations made on patients dying from typhoid fever between the ages of five and fifteen, found perforation of the ileum in two cases, the ages being respectively twelve and fourteen years. He expresses the opinion that "age exerts no special influence in its production." Murchison,[10] who is of the same opinion, found in an investigation of seventy-three cases of perforation in patients of all ages that six cases were under ten years of age and eight between ten and fifteen. Barrier[11] found two cases of perforation in twenty-four under treatment. From these quotations we see how opinions conflict, and the only logical method of dealing with such opposing statements is to show that some of the bases of the generalisations must be at least fallacious; but before so doing it will be better to learn something of the frequency of typhoid perforation in children, and for this purpose I have examined the notes of 251 cases of typhoid fever,[12] occurring in patients from two years of age to fifteen (inclusive). These show that perforation was present in six cases out of twenty which proved fatal.[13] To compare this with the frequency in adults I have examined a similar number of cases and find that perforation occurred in eighteen cases out of forty-three that died. That the facts relating to these twenty-four cases may the better be compared I propose to investigate them under the following headings:—

Age.—Of the 6 cases in children 2 were five years of age, 1 was seven and a half years, 2 were nine years, and 1 was fourteen years of age. Of the 18 cases in adults 2 were between fifteen and twenty years of age, 6 between twenty and twenty-five, 2 between twenty-five and thirty, 4 between thirty and thirty-five, 2 between thirty-five and forty, and 2 forty-three years of age.[14]

Sex.—Of the 6 cases in children 5 were females and 1 was a male. Of the 18 cases in adults 10 were males and 8 were females.

Period of occurrence.—In children perforation[15] occurred during the third week in 1 case, during the fourth week in 2 cases, during the ninth week in 1 case and during a relapse (the definite time not being stated) in 2 cases. In adults the perforation occurred during the second week[16] in 2 instances (being in one case early and in the other late in the week), during the third week in 6 cases (at the early part in 3 cases, in the middle in 1 case and at the end in two cases), at the end of the fourth week[17] in 2 instances, during the sixth week in 1 case, during the seventh week in 2 cases and the eighth in one. In the remaining 4 cases the notes do not enable me to work out the time when perforation took place.[18]

The question arises, is perforation as the result of typhoid ulceration rare in children? Now it must be remembered that while death from typhoid fever is not of frequent occurrence amongst children, it is by no means rare (in this investigation it occurred in 20 out of 251 cases) and if death is not rare then perforation regarded as a definite pathological lesion the cause of or as antecedent to causes immediately producing death is not rare; for, we find it to occur in 6 out of 20 cases dying, a proportion of 1 in rather less than 3·5; and I would add that from a proportion almost similar Dr. Bristowe in an article already referred to writes that "the remarkable tendency which typhoid ulcers have to produce perforation of the bowels is shown by the fact that this lesion had occurred in no less than 15 of the 52 cases or in a proportion of 1 in rather less than 3·5." That perforation is less frequent in children than in adults is well shown in this investigation, but it must be remembered that as age advances so does the tendency to death increase. The errors into which writers have fallen appear to be due to three causes. One is having estimated the relative frequency of perforation with reference to the total number of cases seen rather than to the number of cases dying. There is a difference between 6 cases occurring out of 251 under treatment and 6 cases out of 20 that die. Another cause of error is owing to some holding the view that ulceration of the intestine is rare in children, and hence because one (ulceration) is not, the other (perforation), it is inferred, cannot be. At one time no doubt there was a basis for such reasoning; thus in 1861 Wilks[19] exhibited at the Pathological Society a specimen of typhoid ulceration in a youth aged seventeen stating that "ulceration was *unusual* at such an age." But no one would, I think, now exhibit such a specimen as unusual. To justify my statement I would for a moment ask attention to an investigation of seventeen post-mortem examinations in children. Ulceration was present in 3 cases between the ages of three and five, in 10 between five and ten, in 1 at fourteen and 1 at fifteen, while in a second case at fifteen years of age no ulceration was found, the child dying on the ninth day; and in another case, aged two years, no ulceration was found—the child died on the fourteenth day.[20] The third cause of error is the too often forgetting that individual experience is, at its utmost, but a small factor and narrow basis for conclusions

[1] Diseases of Children. New Sydenham Society's Transactions, p. 341.
[2] Diseases of Children, 1873. p. 177.
[3] Keating: Cyclopædia of the Diseases of Children.
[4] Diseases of Children, 1883, p. 723.
[5] Traité Clinique et Pratique des Maladies des Enfants, 1891.
[6] Diseases of Children, latest edition.
[7] Diseases of Infancy and Childhood, sixth edition.
[8] Diseases of Infancy and Childhood, sixth edition.
[9] Transactions of the Pathological Society, vol. xi.
[10] Continued Fevers, pp. 568 and 569.
[11] Quoted by Henoch.

[12] These investigations are made from the published reports of the medical and surgical cases in the General Hospital for Sick Children, Pendlebury, and the published reports of the Middlesex Hospital.

[13] In this investigation I have gone carefully over the notes of every case and can find no recorded sign or symptom indicative or suggestive of perforation in any of the cases which recovered; in all the fatal cases post-mortems were made.

[14] Bristowe, in an investigation of 15 cases, found 2 between ten and fifteen, 7 between fifteen and twenty, 1 between twenty and twenty-five, 2 between twenty-five and thirty, and 3 between thirty and thirty-four. (Transactions of the Pathological Society, vol. xi.)

[15] Barthez and Sanné state that perforation (in children) usually occurs during convalescence.

[16] Murchison mentions 4 cases out of 58.

[17] Murchison found the fourth week the most frequent. (Continued Fevers, p. 569.)

[18] Although in this investigation there is no case illustrative of perforation occurring while the patient has been at work instances of it are recorded by Murchison (Continued Fever) and Bristowe (Transactions of the Pathological Society, vol. xi., pp. 569, 570, 577).

[19] Transactions of the Pathological Society, vol. xii.

[20] Earle (Keating's Cyclopædia of Children's Diseases) is stated to have seen extensive ulceration in a child aged two years.

in such an inductive science as medicine, for experience, like many another quality, relation or quantity, is variable. From a due and careful consideration of all the preceding remarks is one not justified in enunciating a law to the effect that perforation as the result of typhoid ulceration is liable to occur at any age and may be found as a pathological lesion in children as well as in adults? Such being the case the remaining part of this investigation will be made irrespectively of age and the next point for consideration is the situation of the perforation, but as perforation of the intestine in typhoid fever is the result in almost every instance of ulceration it may be well before proceeding further to endeavour to ascertain what part or parts of the intestine are ulcerated and thus in this form of fever liable to become perforated.

Seat of ulceration.—To ascertain what part of the intestine was ulcerated 192 necropsies have been examined and with the following results.[21] Ulceration was present in the ileum alone in 128 cases. In three of these cases small newly-formed ulcers were found in the stomach,[22] in 2 instances two separate ulcers being present; in the remaining 64 cases the ileum was ulcerated in all instances and other parts of the intestine as follows: the jejunum in 1 case, the cæcum in 12 cases, the cæcal appendix in 4 cases and the colon in 47 cases, the ascending colon being ulcerated 8 times, the transverse 3, the descending 2, and ulcers were present in all parts of the colon in 34 cases. Thus, whilst the ileum was ulcerated in every instance, the relative frequency with which ulceration was present in other parts is as follows: colon, cæcum, cæcal appendix, stomach and, lastly, the jejunum;[23] whilst there is no instance in this investigation of the duodenum being affected.

Seat of perforation.—With the knowledge already gained I proceed to investigate in order to ascertain the seat of perforation in 72 necropsies[24] in which it was present and I find that the ileum was perforated in 61 instances, at distances above the ileo-cæcal valve varying from 1 in. to 6 ft., being in the majority of cases 6 in., 12 in. and 24 in. In the remaining 11 cases the perforation was situated as follows:[25] The colon in 5 instances, the cæcum (the anterior surface) in 3, and the cæcal appendix in 3. Of the 5 perforations in the colon 1 was in the ascending colon an inch above the cæcum (in this case the ileum was also perforated), another in the transverse colon and 3 in the descending colon, 2 being in the upper part and 1 in the sigmoid flexure. Amongst the cases thus investigated there is no instance of perforation in the duodenum or jejunum.[26] In comparing the relative frequency of ulceration and of perforation,[27] locally considered I find that the descending order in both is as follows: Ileum, colon, cæcum and cæcal appendix; but on comparing the proportionate frequency of ulceration and perforation I find the order to be as follows: Cæcal appendix, ileum, cæcum, colon.[28]

I will now briefly state the results of an investigation which I have made of cases recorded in the Transactions of the Pathological Society other than those contained in the tabular account of cases already referred to. Examples illustrative of perforation in the ileum are also excluded. I cannot find in these Transactions any case recorded of perforation as the result of typhoid ulceration in the cæcum.[29] Murchison[30] records 1 case in which perforation occurred in the cæcal appendix, and I find 5 instances recorded of perforation in the colon.[31] In 1 case the perforation was in the ascending colon and in 4 in the sigmoid flexure. If I take the 5 cases previously mentioned and then consider the situation of the perforation in 10 cases in the colon[32] I find that it occurred twice in the ascending, once in the transverse and seven times in the descending colon—being twice in the upper part and five times in the sigmoid flexure itself. So far then as these recorded cases allow one to form a judgment, the sigmoid flexure is the most frequent site of perforation (the result of typhoid ulceration) when it occurs in the colon. Before concluding this part of the subject it may be of interest to mention that of the 4 cases of perforation in the cæcal appendix 2 were in children aged respectively five and thirteen and in 1 of the 3 cases when the cæcum was perforated the patient was ten years of age. In an earlier part of this paper I remarked that perforation was almost always the result of ulceration, and this was done with the knowledge that the Transactions of the Pathological Society[33] do contain an instance of perforation of the duodenum during typhoid fever *described* as the result of an abscess situated over the head of the pancreas and the duodenum in a boy nine years of age. I use the expression "described" as it appears to me that this might be an instance of perforation of the duodenum causing an abscess, it being well known that perforation of the stomach or intestines may be a cause of pus formation. It will be remembered that some writers consider that worms[34] (ascaris lumbricoides) under the stimulus of increased temperature cause perforation through an ulcer. Although many cases are recorded (and one occurred amongst the cases dealt with in the foregoing investigation) in which the ascaris lumbricoides has been either found in the intestine after death or passed during life by the bowel or through the mouth yet no case of typhoid fever[35] has been recorded suggesting such as an exciting cause of perforation. I now pass on to consider the condition of—

The abdominal cavity after perforation.—As the result of perforation the contents of the abdominal cavity contains much that is foreign to it. Gas, fæcal extravasation, blood-clot and blood; and not only is a foreign element admitted but the contents themselves become changed, thus local peritonitis is met with, which is, however, much less frequent than general peritonitis, which becomes in many instances purulent in character. The intestines are constantly matted together, lymph in many instances becomes thrown out and is sometimes general but often local—that is, it is close to the site of the perforation. In one case where perforation was situated in the transverse colon the omentum was adherent to the opening and prevented extravasation into the

[21] (*a*) Middlesex Hospital published Reports for ten years; (*b*) Tabular account of 113 cases in St. Bartholomew's Hospital in fourteen years and three months (Transactions of the Pathological Society, vol. xxxiii.); (*c*) Tabular account of fifteen cases in St. Thomas's Hospital (Transactions of the Pathological Society, vol. xi.).

[22] In writing on ulceration under the heading "Typhus Fever" in the "Cyclopædia of Medicine" Tweedie says: "Ulceration is comparatively infrequent in the stomach, still more so in the duodenum and jejunum, the most common situation being in the ileum." He quotes an investigation by Andral, who found in 92 cases that the stomach was ulcerated in 10 instances—the duodenum in 1 and the jejunum in 9. Jenner (on the Identity and Non-identity of Typhoid and Typhus) found ulceration of the stomach in 1 case out of 20 examined, but he found no instance of ulceration of the duodenum. Louis found ulceration in the stomach in 4 cases out of 46, and in the duodenum in 2 out of 22 examined. Murchison, however, in no instance observed ulceration either in the stomach or the duodenum. To compare typhoid ulceration with tuberculous, see THE LANCET, July 16th, 1892.

[23] Hoffman (quoted by Liebermeister in Ziemssen's Cyclopædia of Medicine) in an investigation of 231 cases found the large intestine ulcerated in 94 instances—viz., cæcum, 47; colon, 45; rectum, 2. I have once seen a case where the whole of the colon and rectum was ulcerated, whilst only 2 small ulcers existed in the ileum. Hoffman describes a case in which the ulcers were in the colon only.

[24] From the same sources as the cases for ulceration.

[25] Dr. S. Wilks says that next to the ileum the cæcum is most frequently perforated (Pathological Anatomy). Dr. John Harley also says the cæcum is most usually affected (Reynolds' System of Medicine).

[26] In 64 cases tabulated by Morin the jejunum was perforated in 2 cases (Murchison, Continued Fevers).

[27] It will be remembered that in 192 cases examined for ulceration the numbers were as follows: Ileum, 128; colon, 47; cæcum, 12; cæcal appendix, 4. Of the 192 cases, 72 presented perforation as follows: Ileum, 61; colon, 5; cæcum, 3; cæcal appendix, 3.

[28] Morin in 64 cases found the colon perforated 14 times and the cæcal appendix 12 times (quoted by Murchison). Murchison in 39 cases found the ileum perforated 34 times, the colon times (two being in the cæcum) and the cæcal appendix once. Liebermeister in 136 cases found the ileum perforated 106 times, the cæcal appendix 15 times, the colon 12 times (Ziemssen's Cyclopædia of Medicine). On comparing typhoid perforation with tuberculous perforation (in cases of phthisis) in 34 cases the order was as follows: Duodenum, 3; jejunum, 3; ileum, 21; cæcal appendix, 4; cæcum, 1; ascending colon, 1; transverse colon, 1 (Messrs. S. Fenwick and Dodswell, THE LANCET, July 16th. 1892).

[29] An interesting case is mentioned by the late Dr. Habershon as being recorded by Dr. Hughes in Guy's Hospital Report for 1856 (Diseases of the Abdomen) of a boy aged fourteen, who seven months after typhoid fever had strumous peritonitis and perforation of the cæcum.

[30] Trans. Path. Soc., vol. xvii.

[31] Brinton, vol. ix. Murchison, Trans. Path. Soc., vol. xiii. and vol. xvii. S. West, Trans. Path. Soc., vol xxiv. Norman Moore, Trans. Path. Soc., vol. xxxiii. (This case is included in the tabular account and so belongs to the former investigation.) Hadden, Trans. Path. Soc., vol. xxxviii.

[32] Morin in 14 cases of perforation found the order as follows: Cæcum, 2; ascending colon, 7; transverse colon, 1; sigmoid flexure, 4. Murchison in 5 cases found the order as follows: Cæcum, 2; ascending colon, 1; sigmoid flexure, 2 (in one of these cases both the cæcum and the sigmoid flexure were perforated).

[33] Dr. Hermann Weber, Trans. Path. Soc., vol. xii.

[34] Demateis: Centralblatt für Bakteriologie und Parasitenkunde No. 21.

[35] A remarkable case is mentioned by Andral of a young man suffering from phthisis who passed an ascaris lumbricoides by the umbilicus. The patient lived for some weeks afterwards, and at the necropsy several other ascarides were found in the peritoneal cavity, having escaped from the intestine. (Pathological Anatomy, vol. ii.)

peritoneum. In two cases a circumscribed cavity was described as communicating with the perforation. There is yet one more point to be considered.

The associated lesions.—In 46 cases there was no lesion observed other than what may be due to typhoid fever itself. In 27 cases the following, in addition to the typhoid lesions, were also present: the pericardium was adherent in 1 case; there was valvular disease of the heart in 4 cases, mitral stenosis being present in 2 cases, mitral regurgitation in 1 case and mitral regurgitation with aortic disease in the other case; the kidneys were diseased in 5 cases, being described as "granular" in 3, "fatty" in 1 and "suppurative nephritis" in the other. Pneumonia was recorded as being present in 5 cases and pleurisy in 3 cases. Pus was found in the mesenteric glands in 2 instances, hæmorrhage into the stomach through an ulcer in 1 case and acute abscesses in each rectus abdominis in 1 case; an ulcer in the larynx was observed in 1 case and in another there had been a recent abortion. These facts must be left to speak for themselves even at the expense of my being considered "a dull collector of facts." On a future occasion I hope to make these important, if dull, kinetics potential when I come to write on the treatment of perforation.

Wimpole-street, W.

FIVE CASES OF ALBUMINURIA GRAVIDARUM WITH ECLAMPSIA, FOR WHICH VENESECTION WAS PERFORMED IN TWO; RECOVERY OF ALL.

BY ROBERT KIRK, M.D. EDIN., F.F.P. & S. GLAS.,
PHYSICIAN TO THE DISPENSARY FOR DISEASES OF WOMEN, GLASGOW WESTERN INFIRMARY.

THE following cases furnish an additional illustration of what has been so often the subject of remark—viz., how we may sometimes have a series of the same class of cases in close succession.

CASE 1.—A married woman, in the eighth month of her first pregnancy, was seized with a violent headache at 5 A.M. on Dec. 9th last, and general convulsions commenced two hours afterwards. These went on till I saw her twelve hours afterwards and she was quite unconscious between the attacks. She had a violent fit on my arrival, immediately after which I bled her to sixteen ounces. Six ounces of pale urine were drawn off by catheter, which was found to be albuminous to one-third of the column of liquid. She was not in labour. There was no anasarca, and the ankles did not pit on pressure. After the bleeding the fits became shorter, lasting one minute instead of three as before, but they continued every half hour till 5 A.M. next morning. At 7 A.M. expulsive efforts commenced, and when I saw her at 11 A.M. labour was so far advanced that I delivered with forceps; the child was stillborn (perhaps dead some hours). The patient made a good recovery; the first urine after delivery (twenty-six hours) was drawn off by catheter (thirty-two ounces), and contained the same amount of albumen as before.

CASE 2.—A married woman, in the ninth month of her first pregnancy, was seized with convulsions on April 2nd last, after headache and vomiting. She had come from Belfast on the preceding night. I first saw her after three violent attacks, and she had a severe seizure in my presence, after which I bled her to twenty-four ounces (she was stout and florid). There was no anasarca or pitting of the ankles; some urine drawn off by catheter was albuminous to half the column. Labour was progressing, the os being dilated to the size of a florin. Four convulsions ensued within the next hour, but they then ceased and I effected delivery by the forceps, six hours after I had first seen her. The child was alive and well. Singularly enough, the convulsions recurred with the same severity as before six hours after delivery, but finally ceased after four attacks within an hour. Previously to these she had had a few doses of bromide and chloral. She made an uninterrupted recovery.

The blood serum in both these cases was examined for uric acid, but none was found.

The three cases in which there were no convulsions were also all primiparæ. In all three there was anasarca. In one case I was first summoned when the patient was in actual labour, and I delivered her with the forceps under a profound dose of chloroform, which I need hardly say she bore perfectly well. The anasarca was not great in this case. The second patient came under observation in the sixth month of pregnancy, with swollen legs and albuminuria. She was treated for a fortnight, during which the anasarca was a good deal reduced. Premature labour then came on and the child was born alive and lived four days. The third case was that of a slim, diminutive woman, twenty-seven years of age, who was first seen two weeks before labour came on, when she said that she was in the ninth month of pregnancy. There was great anasarca, extending to the loins and in front to the epigastrium. No fœtal movements had been felt for some time past, and on auscultation neither the fœtal heart nor the placental souffle could be heard. The urine was albuminous to a quarter of the column. The treatment failed either to diminish the anasarca or the albumen in the urine. When labour came on, fearing the rapid absorption of the serous effusion, which I am inclined to regard as a possible source of danger after delivery, I made an incision into each ankle, from which the serum drained away freely. When the child was born the cranial bones were very loose, and there was no doubt that it had been dead for a considerable time. The mother made a good recovery, but the urine still contained, some months after delivery, a considerable quantity of albumen. In all the cases the albuminous urine was of the frothless variety, so common in acute nephritis.

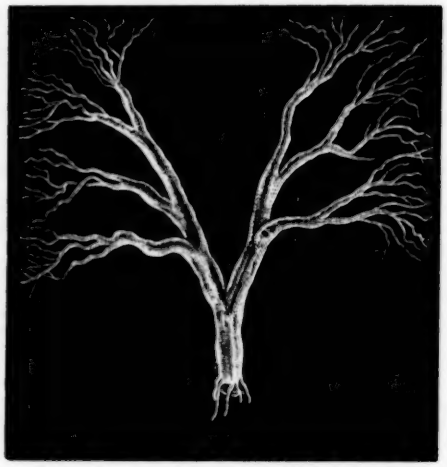
Partick, Glasgow.

BRONCHIAL CASTS IN CONNEXION WITH MITRAL REGURGITATION.

BY SIDNEY C. LAWRENCE, L.R.C.P. LOND., M.R.C.S.

ON June 4th, 1892, I first saw the patient, a boy of nine years of age. His previous history was that he had had good health till November, 1891, when he had an attack of "inflammation of the heart." Since that illness he had felt weak and not equal to his school work, but he had not been troubled with shortness of breath or cough. His mother enjoys good health and he had lost a sister in her infancy from scarlet fever. His father, aged fifty, has had several attacks of rheumatic fever and "has a weak heart." The boy was small for his age, poorly nourished (though not emaciated) and with a harsh, dry skin. Auscultation revealed a loud regurgitant murmur at the heart's apex, but no abnormal sounds in the lungs. The pulse was about 80, small and soft, but regular. The apex beat was at the fifth rib in the nipple line. I prescribed cod-liver oil emulsion and a mixture of citrate of iron with nux vomica. I next saw him on August 4th, a month intervening, when I was hastily summoned because he was spitting up "queer things like little trees." I was shown one his mother had put in a saucer of water. It was similar to the one depicted in the engraving on next page, but rather smaller, quite white and circular in section. He had no fresh symptoms to complain of, no rise of temperature and no dyspnœa. The mitral bruit was as before, but just below the angle of the left scapula I could detect a patch of consolidation the size of a crown piece. On Jan. 1st, 1893, I was again in attendance. I was told that since August till the last week or so he had been in his usual health, coughing up the casts at irregular intervals. He would cough one or two up daily for a few days or a fortnight and then cease for a month or so. The casts were still quite white and occasionally had a streak of bright blood on them which washed off instantly in water. Sometimes they were not perfectly round in section, but flattened as if the cast had not completely occluded the bronchus. Before expectorating a cast he felt a "tickling" cough for some hours. On New Year's Day I found his mitral regurgitation worse, there was some ascites, and he had a left inguinal hernia. The liver dulness, if increased at all, was only slightly so and that at the upper border, but there was no tenderness over the liver. I could find no trace of the consolidated patch that had existed below the angle of the left scapula in August, but I discovered a fresh one of the same size at about the second interspace below the right apex. There was no dyspnœa or pyrexia. I was told that for a week or two past the cough had been more intense; hence, I presume, the hernia. I ordered him to keep his bed and prescribed strophanthus and nux vomica. He soon got better. The fluid in the abdomen disappeared and his pulse

improved After a week's attendance I allowed three weeks to elapse before again visiting him. Then I found that he was complaining of greater weakness, loss of appetite and marked loss of flesh. The consolidation was of greater extent and involved the whole of the apex. From that time the area of consolidation increased till Feb. 20th, when the whole of the upper right lobe appeared solid. Then, and not before, his respiration increased to 30 and then to 35 a minute and his temperature that morning was 103·5° F. Now he presented the appearance of a typical acute pneumonia, though his sputum was not "rusty" but copious, and his cough was troublesome. The expectoration consisted partly of bronchitic froth and partly of shreds of dirty-white material, as of broken-up casts; it was not offensive in odour. The dyspnœa continued and the temperature kept up till the 24th, then the temperature fell to normal or a little below; but his respirations numbered between 20 and 25 a minute. The boy continued getting weaker and thinner and was unable to leave his bed. On March 6th ascites reappeared. The expectoration was still copious and of the same character. After the febrile attack he never expectorated any whole casts. The left lung and lower lobes of the right remained free from complication till March 11th, two days



before his death, when signs of œdema and congestion of the lungs became general. His pulse was now very quick and irregular and his urine scanty, being loaded with urates and presenting a cloud of albumen when tested. On March 13th, at half-past one in the morning, he passed quietly away. No post-mortem examination, unfortunately, could be obtained.

Remarks.—The expectoration of bronchial casts is so rare a condition that I consider this case worthy of record. I was much interested to read in an article by Dr. R. W. Richards in THE LANCET of May 20th of this year of the occurrence of bronchial casts of a different character and under other circumstances. As he says, the text-books contain very little on the subject; Bristowe figures two casts (natural size), but not so large as some expectorated by my patient. My case is singular in the little local trouble experienced and in the absence of constitutional effects till towards the end, when the exudation apparently filled up the bronchi of the whole upper right lobe. Then the casts seemed to adhere to the tubes and only came away in shreds and not whole. I am at a loss to rightly estimate the connexion between the cardiac trouble and the bronchial casts. Were the latter simply formed by excess of blood-pressure in the lobules squeezing out the fibrinous material in a mechanical manner into the bronchi? The casts would seem not to be due to any inflammatory process, for the boy was expectorating them from Aug. 4th till Feb. 20th without any dyspnœa or rise of temperature. The absence of the former symptom, I consider, was due to the small area of lung involved at any one time. I am fortunately able to publish a drawing of one of the largest casts. It is the natural size and well depicted by my friend, Mr. Harry Evans. The casts were exhibited and the history of the case related to the Bournemouth Medical Society on Feb. 17th, 1893.

Bournemouth.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

NATURAL OBSTETRICS.

By F. ENSOR, M.R.C.S. &c.

JOHN STUART MILL writes: "In the clumsy provision which she has made for that perpetual renewal of animal life rendered necessary by the prompt termination she puts to it in every individual instance no human being ever comes into the world but another human being is literally stretched on the rack for hours or days."[1] In order to show that to this rule there are some happy exceptions I think it may interest the readers of THE LANCET to peruse the following. Some time ago I was in attendance on a young woman of gentle birth and of as fine a physique as one would see in a day's march. It was her first child, and although quite normal the labour was tedious. In the intervals of the "clumsy" process to which J. S. Mill alludes I (as I dare say many of your readers have done) retired to the smoking-room and passed the time in friendly chat with the young husband, a fine, intelligent young colonist, who had lived in Zululand, knew the natives well and could speak the language fluently. I inquired of him how the Kaffir women managed under similar circumstances. He replied that "a young woman will remain with the elders at her first childbirth in the hut, but in subsequent labours she always goes away into the bush alone and manages her trouble." A short time previously he was riding home, with gun on shoulder, when a Kaffir man stepped out of the bush and, saluting him with the grace and good manners innate in the uncivilised kaross-bearing native, said, "Inkosi, give me some gunpowder." "What do you want it for?" the husband of my patient asked. "Zala umtwana," was the answer, which being interpreted means, "My wife has laid a child." He gave him a charge of powder from a cartridge, three and a half drachms, and rode on to the homestead. In about two hours the woman made her appearance with a fine male child; she had walked seven miles to his house and was seen by her master subsequently, being quite well and hearty. The woman was about thirty years of age and it was her second child. She must have been taken in labour whilst on a journey, and the delay in the afterbirth was the cause of the request for the gunpowder. I think the natives must have learned this remedy to induce uterine contraction from a Dutch midwife, but I cannot say. I suppose the nitre is the essential ingredient. Another case was that of a Kaffir woman aged about forty, who was at least a mile from home and carried on her head a bundle of firewood big enough for a donkey-load to the house. Passing the kitchen she said to her daughter, "I feel pains, I must go to the bush, I will leave the sticks here." She was away for about three hours; having taken the new arrival to her hut, she returned to the kitchen and carried off the firewood. I am quite sure that the illustrious logician when he penned the lines I have quoted never officiated at a Kaffir accouchement. Kaffir men and women in their natural state are a very fine race indeed; it is only when they settle in towns that they degenerate and die prematurely. Drink, phthisis and syphilis do their deadly work. The black coat is a tunic of Nessus to them and they perish in its unnatural folds. The bushmen, the real Hottentots, the bastard yellow people, are fast disappearing; but the thoroughbred Kaffir, under the protecting reign of British law, is increasing rapidly and it will need all the wisdom of the Colonial Office to turn the tide of native expansion into the paths of peace or the time will come when the whites in South Africa will either be pushed off the land or be absorbed into the more enduring native race.

Port Elizabeth, South Africa.

VARICOSE VEINS IN BOTH ARMS.

By A. S. DUTTON, M.R.C.S.ENG., L.R.C.P.LOND.

AN interesting case of varicose veins in both arms has recently come under my notice, and as I have never seen a similar case before and do not remember to have seen such

[1] Essays on Religion, sec Nature, p. 30.

a case referred to in text-books, it seems to be worthy of record.

The patient, a healthy-looking woman aged sixty-five years, first came under my care suffering from an acute attack of eczema on the arms, legs, chest and abdomen, and I then noticed the condition of the arms. She has a good family history, having had ten children eight of whom are living and healthy, and her mother and father having lived to an advanced age. Her occupation up to her marriage at the age of twenty-four had been that of housework, with a good deal of washing to do. She considers that she has had to work very hard all her life, and always noticed that washing especially gave rise to a good deal of swelling and to aching pains in the arms. At the age of eighteen she first noticed swellings in the arms, which have gone on increasing gradually until the present time. She has had advice at various times and has been treated with bandages applied to the arms and by other measures, which have had very little effect, and for some years now she has had no treatment owing to the inconvenience of such. At the present time her arms present a curious appearance. On both forearms and for three inches above the elbow-joints are to be seen and felt knotted masses of various sizes, from that of the diameter of a pea to that of a walnut; they are superficial and appear to be situated immediately beneath the skin; they are soft, painless and movable, and not attached to the skin. The varicosity does not appear to have attacked the chief superficial veins of the arm as it usually does those of the leg, but rather to have attacked the ramifications of the veins, giving rise to the well-defined masses described. On vigorously flexing and extending the forearm at the elbow-joint all the superficial veins are seen to swell to an unusual size, and the patient asserts that she has often noticed the lumps to have had a blue appearance, especially after a day at the wash-tub. Beyond the level of three inches above the elbow-joint nothing abnormal appears in the arms. On examination there appears to be no special cause for this condition. There are no signs of pressure, no enlarged glands in the axilla, no signs of any tumour or aneurysm within the chest giving rise to pressure, and no heart affection. Her general health is good; for the last few years she has suffered from bronchitis, but not severely; the lungs give no signs of becoming permanently affected and there is no detectable emphysema. The condition gives rise to no special inconvenience beyond a considerable amount of aching pain after a hard day's work. The conclusion I have arrived at after excluding all possible causes of such a condition is that it is an ordinary case of varicose veins attacking the unusual position of the arms and probably due to the same causes as are those in the leg—namely, increased intra-venous pressure caused by severe muscular exertion, which, owing to occupation and especially that of washing, has given the arms a more than ordinary share of work, in addition to which the woman is predisposed to a varicose condition of the veins, for, as perhaps I should have mentioned before, she has considerable varicosity of the veins of both legs, also extending to the veins of the thighs.

Lewes, Sussex.

KING'S COLLEGE HOSPITAL.—A meeting, attended by a distinguished company, was held last week at Grosvenor House, by permission of the Duke of Westminster, to urge the claims of this institution to a larger measure of public support. His Grace presided and earnestly advocated the objects of the meeting. The Duke of Cambridge followed and emphasised the usefulness of the institution, its eminence as a school of medicine, its financial difficulties and the necessity of maintaining its full work and efficiency. Resolutions were unanimously adopted in accordance with these views. Subscriptions amounting to £2000 were announced.

ASSOCIATION OF MEDICAL OFFICERS OF LIFE ASSURANCE OFFICES.—At a meeting of medical officers to life assurance offices held on July 19th, under the presidency of Dr. J. E. Pollock, it was unanimously decided to form an association of such officers and the following were appointed to take the preliminary step towards carrying out the scheme: Drs. Colcott Fox, De Havilland Hall, Heron, C. E. Hoar, Habershon, Glover Lyon (hon. sec. *pro tem.*), Hector Mackenzie, Newton Pitt, Pollock and Symes Thompson, with power to add to their numbers.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

A CASE OF SYMMETRICAL GANGRENE OF THE FEET.

(Under the care of Mr. D'ARCY POWER).

THIS is a good example of the form of symmetrical gangrene known as "gangrène juvenile"—that is, Raynaud's disease—occurring in a young child in whom many of the causes of gangrene which might have to be considered in the adult do not present themselves. The radial arteries are spoken of as "tortuous, thickened and easily felt," but the arteries supplying the affected parts were considered normal. The symmetry in the affection in this case was more marked than usual, for it is rare that the loss of substance is geometrically alike in both extremities. Raynaud writes: "As to the word symmetry, which I have made use of in describing this remarkable affection, it must be well understood that I never used the word in its strict geometrical sense." It may in some instances be necessary to diagnose this disease from chilblains, especially if ulcerated, a history of which is not unfrequently given, but the gangrene is usually too extensive. If the symptoms developed rapidly in cold weather a suspicion of frost-bite might reasonably be entertained, but the other symptoms and the history would probably prove enough to prevent a mistake. Dr. Haig has recently suggested another cause for the spasm of the arterioles, capillaries and small veins. He writes: "Urates contract the arterioles and capillaries all over the body; this explanation enables us to account for many of the most important points in the causation of Raynaud's disease." For the notes of this case we are indebted to Dr. Lewis G. Glover.

A girl aged four years and eight months, but looking much younger, was admitted to the hospital on March 9th, 1893, suffering from gangrene of both feet. In the winter of 1891 she had been much troubled with chilblains on both feet. In November, 1892, she was brought to the hospital to be treated for wasting and swelling of the feet and legs as high as the knees. Her mother said that her feet and legs became livid in the evening, but were of a natural colour during the day. In December, 1892, the toes became black and shrivelled. The fingers were perfectly natural. The child had never walked or crawled, but there was no paralysis of the legs and the want of power appeared to depend on simple weakness. The past history of the child was unimportant. She had been fed from birth on artificial milk. She had an attack of measles at the age of eight months. There were no indications of syphilis. She was the youngest of a family of four, her brothers and sisters being well and strong. The father was subject to chilblains. There was no family history of phthisis, diabetes, or heart disease.

On admission it was noted that the patient was pale-faced, dark-haired and thin. The pulse was 144, regular and of high tension. The radial arteries were tortuous, thickened and easily felt. Pulsation could be felt in the dorsalis pedis artery of each foot and in both posterior tibial arteries. The skin was natural, the finger-nails were cracked transversely and the finger-tips beneath the nails were livid. The heart and lungs appeared to be absolutely normal. The eyes were natural; there were no retinal hæmorrhages. All the toes on both feet were shrivelled and black, the gangrene extending as high as the metatarso-phalangeal joints. On the inner side of the left heel was a small patch of black skin about half an inch in diameter, and at a corresponding point on the inner side of the right heel the skin appeared to be redder than natural. The patient immediately upon admission was ordered a generous diet, with half an ounce of brandy every twenty-four hours. Small doses of tincture of

opium and aromatic spirit of ammonia were given frequently. On March 14th a line of demarcation was beginning to be formed along each series of metatarso-phalangeal joints; the slough on the left heel had separated, leaving a small superficial ulcer, whilst the red patch on the right heel had completely disappeared. On March 18th the phalanges of the little toe on the left side were completely separated. On April 6th chloroform was administered and the remaining phalanges on both feet were removed. The patient made an uninterruptedly good recovery, except that on April 16th a small black spot was noticed about the junction of the upper with the middle third of the anterior surface of the right tibia. The child was again ordered one-minim doses of laudanum and the spot disappeared in the course of a few days. On May 3rd she was sent to the convalescent home at Broadstairs and she has since been reported as being in London fat and well. During the patient's stay in the hospital her urine was repeatedly tested. It was usually neutral or feebly alkaline and it was at all times free from sugar, blood and hæmoglobin. On admission it contained some triple phosphates. On May 1st it was acid and there was a faint trace of albumen.

Remarks by Mr. D'ARCY POWER.—This case of symmetrical gangrene appears to fulfil all the requirements of Dr. Raynaud. It affected simultaneously both lower extremities. It was limited to a small extent of the feet—viz., the toes. It affected many points all at once. The arteries supplying the affected feet continued to transmit blood. The case is therefore one of Raynaud's disease and is of the rarer class, for it was a child, but not of the rarest class, for the patient was a girl. In the light of Dr. Haig's recent paper in the last volume of the St. Bartholomew's Hospital Reports it is interesting to notice that the mother of the child volunteered the statement that before the attack the patient passed much more urine than usual. I did not notice any marbling of the skin and there was no intermittent pulse.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

ACUTE PERITONITIS AFTER CONFINEMENT; ABDOMINAL SECTION; DERMOID DISEASE OF BOTH OVARIES; REMOVAL; RECOVERY.

(Under the care of Mr. PAGE.)

DERMOID tumours of the ovary may be met with at all periods of life, even beyond eighty years of age, but it is not common to find both ovaries affected. In addition to the cases mentioned in the remarks by Mr. Page, Dr. Matthews Duncan has recorded a case in which dermoid cysts of both ovaries were removed by Mr. Langton. Dr. Montgomery[1] removed a double dermoid ovarian cyst from a girl aged eleven; the tumour was known to have been in existence for three years. Dr. Mundé[2] operated for abdominal tumour and found a dermoid tumour of each ovary, the right being as large as a pregnant uterus of six months. The patient was admitted with the symptoms of acute peritonitis after confinement, and abdominal examination does not appear to have shown the presence of any new growth. The fact that such an acute inflammation, developing apparently as a consequence of parturition, may be due to the rupture of a cyst, and not to septic infection, should be remembered. The case is encouraging to those who advise exploration in peritonitis after labour. For the notes of this case we are indebted to Mr. W. H. Bishop, house surgeon.

A woman aged thirty-three was admitted into the Royal Infirmary, Newcastle-on-Tyne, on April 12th, under the care of Mr. Page, suffering from acute peritonitis with distension. The patient was confined on Feb. 1st, fourteen months after marriage; she was in labour forty-eight hours and was ultimately delivered with the forceps. Immediately after the birth she was seized with severe pain in the left side and suffered from it more or less continuously for about a fortnight. One month after confinement she was able to leave her room and a few days later went into the garden; whilst out she had a rigor. The same day the pain in the left side returned "as bad as ever" and the abdomen became much swollen. Her previous history showed that she had been exceptionally healthy and came of a healthy stock. Menstruation commenced at fifteen years of age, but was irregular until she attained the age of twenty. Since then she had been quite regular; the flow lasted three or four days and was scanty. She had no pain and never passed any clots.

On admission the patient, a tall woman, was somewhat delicate-looking and pale; the face was pinched; pulse 108, small and thready; respiration quiet and shallow. She had pain and tenderness all over the abdomen, but especially in the left iliac region. On vaginal examination a soft fluctuating swelling could be felt in the left lateral fornix. The temperature was 102° F. On April 13th the abdomen was opened and a quantity of semi-purulent fluid escaped. The peritoneum was covered with lymph. The left ovary was about the size of a goose's egg and adherent to the intestines by recent adhesions; it was removed. The right ovary was about the size of a hen's egg, and was also removed. A pair of artery forceps were left on a spurting vessel which was too deep to tie, a glass drainage tube was inserted and the wound closed. She made an uninterrupted recovery, the wound healing by primary union throughout. The tube was removed the morning after the operation and the forceps twenty-four hours later. She left the hospital on May 12th in good health. Examination of the ovaries revealed an interesting condition. In the left no trace of ovarian structure was found. It was converted into a cyst containing a large quantity of recent blood-clot and a mass of coarse hair. The right contained hair, a plate of bone and fatty material; a small portion of apparently healthy tissue remained. Both tubes were apparently healthy.

Remarks by Mr. PAGE.—In Mr. Bland Sutton's work on the "Surgical Diseases of the Ovaries" three cases are cited by Mr. Thornton, Dr. Bantock and Dr. Cullingworth where both ovaries were removed in consequence of their being the seat of dermoid disease. Two of the women were pregnant at the time of the operation, the third was the mother of twelve children. The case now reported is further interesting from the circumstance that the operation was performed with a successful result whilst the patient was suffering from a severe attack of acute peritonitis. I am of opinion that the recent blood-clot found in the left ovary was probably due to injury during delivery.

[1] Annual of the Universal Medical Sciences (Sajous), 1892, vol. ii., p. 18.

[2] Ibid.

BURTON-ON-TRENT INFIRMARY.

PLASTIC OPERATION ON THE LEG.

(Under the care of Mr. P. B. MASON.)

THE plastic operation in this case, which was performed after the method known as the Tagliacotian, appears to have fulfilled in every way the object of the operator. The graft was obtained from the opposite leg and the necessary quiet ensured by keeping the limbs closely fixed by means of plaster-of-Paris bandages. The patient, a young woman, was unusually well-adapted for a plastic operation on the lower extremities, much more so than the majority of those subject to the formation of ulcers from the effects of injury or disease, for her general health was good and the tissues around were not affected by the results of chronic inflammation. It was, moreover, possible to obtain asepsis from the first in a wound which was in both limbs entirely under the control of the surgeon. For the notes of this case we are indebted to Mr. R. Meredith Littler, house surgeon.

A servant aged twenty was admitted into the Burton-on-Trent Infirmary in November, 1890, suffering from a severe attack of typhoid fever, with at one time copious hæmorrhage from the bowels. She was not finally discharged until April 23rd, 1891. During her illness she suffered from great swelling of the legs, which was supposed to be due to obstruction of the lymphatic system, and cold abscesses formed in various parts of the body which were opened and drained. One in particular formed over the antero-internal aspect of the right leg. This healed before her discharge, but the scar has remained ever since, being prone to ulcerate and break down on the slightest irritation. Rest in bed always sufficed to ensure gradual healing, whilst just as surely the tension and irritation of walking or getting about her occupation caused the scar tissue to break down again. Under these circumstances it was decided to attempt the transplantation of a portion of skin from the calf of the opposite leg. This was done on April 1st, 1893. The old scar tissue was first of all cut and scraped away from the site of the ulcer and for some little

distance around. It was found to be firmly adherent to the subjacent muscles. Perfectly healthy tissues were thus exposed. A rectangular flap of skin and fascia one inch and a half square was then dissected up from the internal aspect of the calf of the left leg (its attachment being anteriorly) and carefully stitched to the edges of the raw surface on the right leg. The limbs were secured together by plaster of Paris above the knees and above the ankles, and then securely fixed to a board so as to secure perfect immobility. The progress of the case was uninterrupted. The flaps were separated from the left leg on the fourth day after the operation, and the sutures (horsehair) removed about a week later, the piece of skin being then firmly fixed in its new position. A small longitudinal portion about a quarter of an inch broad sloughed along what had been the attached edge after separation. The patient has now quite recovered and is able to resume her ordinary duties.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

A MEETING of this Section was held on June 23rd, Dr. HORNE, President, in the chair.

Dr. W. J. SMYLY exhibited specimens of (1) Tubes, Ovaries and Uterus removed for inflammation; (2) Ovarian Tumours. On opening the abdomen in the first case he found that both the tubes were distended with fluid. The tubes were thickened and diseased, and therefore it became necessary to remove them as well as the ovaries. The case showed that the tubes can get enormously distended without a diagnose being possible, and he thought it was not possible to differentiate between distended tubes and coils of intestine. The right tube was so intimately adherent to the uterus that in peeling it off the diseased structure of the uterus gave way. The same thing happened on the left side. He thereupon extirpated it, as if he had stitched it up there would have been considerable oozing and the patient made an excellent recovery. The second specimen was one of a proliferating ovarian cyst of a malignant nature. The third specimen was a dermoid cyst. The fourth specimen was one of ordinary proliferating cyst of the ovary. The next specimen was a myoma attached to the anterior wall of the uterus at the fundus. The last specimen was removed from a woman aged fifty-five, who suffered from constant menorrhagia.—Dr. PUREFOY asked as to the cause of the hæmorrhage in the first case. He would like to know whether Dr. Smyly thought the menorrhagia was due to the metritis or to the disease of the appendages.—Dr. SMYLY, in reply to Dr. Purefoy, said that probably both the metritis and the tubal disease caused the hæmorrhage.

A discussion on the Report of the Rotunda Hospital for three years—1889–92—by Dr. W. J. Smyly and Dr. Glenn was then opened. Dr. A. SMYTH said the report was compiled with very great care and accuracy, and admirably condensed. In judging of such reports they have to deal, first, with the character of the cases; and, secondly, with the morbidity; and then they had to contrast the treatment adopted by the Rotunda School with that of the Continent. He should personally congratulate Dr. Smyly on the head of mortalities. They were simply remarkable, and should satisfy everyone. There was no death from puerperal fever for the last two years. He noticed a slight change under the head of operative treatment. Dr. Smyly only employed the forceps once in thirty-three cases. Dr. Smyly employed the time test—i.e., if a patient was four or five hours in labour in the second stage she should be delivered by the forceps.—Dr. PUREFOY said with regard to the treatment of post-partum hæmorrhage he dissented from the method of plugging the uterus with iodoform gauze. There was no doubt of its efficacy, but at the same time it was a very risky method. He preferred the perchloride of iron treatment.—Dr. S. M. THOMPSON and the PRESIDENT took part in the discussion, and Dr. SMYLY replied.

Reviews and Notices of Books.

The Chemistry of the Blood and other Scientific Papers. By the late L. C. WOOLDRIDGE, M.D., D.Sc., Assistant Physician and co-Lecturer on Physiology at Guy's Hospital. Arranged by VICTOR HORSLEY, F.R.C.S., B.S., and ERNEST STARLING, M.D. With an Introduction by VICTOR HORSLEY. London: Kegan Paul. 1893.

THE essays of a man of original genius always possess a deep interest to those who are engaged on the same or similar lines of research. The views of such an observer are peculiar—often in opposition to, often in advance of, their time. Their perusal, read by the light of later knowledge, shows where such men stumbled in their search; how they met and overcame what appeared to be insuperable difficulties; and how what they advanced was first ignored, then combated, then accepted. All this may be followed in the pages before us, which record the lifelong work of a highly intelligent and most industrious worker, who died, to the great loss of Guy's Hospital, when his abilities were just gaining wide recognition. The title of the volume is rather misleading, since it mainly consists of a series of essays on the coagulation of the blood, which exhibit the successive phases of opinion held by Dr. Wooldridge on this subject. It may be said indeed that Dr. Wooldridge is chiefly known by the researches he undertook on the process of coagulation, in the course of which he demonstrated, first, the great importance of lecithin in this process, and then, in opposition to the view generally entertained, showed that the presence of ferment was not necessary for the occurrence of coagulation, but that coagulation might result from the interaction of two fibrinogens naturally existing in the blood. He showed further that when present the ferment can arise from the plasma alone, providing a special form of fibrinogen which he termed "A-fibrinogen" is present, and that the ferment may appear in blood plasma perfectly free from cellular and, indeed, from all morphological elements. Considering the strong views upon these points that were held when he began his labours, it proves that he possessed much self-reliance and confidence in his work and a marked individuality in his conception of the process to which he paid so much attention. But, as this volume bears witness, Dr. Wooldridge's work was not confined to the blood alone, he published at an early period of his career an important paper on the functions of the ventricular nerves of the mammalian heart, whilst some of his latest work was pathological.

The introduction by Mr. Victor Horsley is ably written and contains some severe remarks upon the line that was taken by the Royal Society in regard to the publication of the views that were put forth by Dr. Wooldridge comparing the neglect to which they were condemned to that accorded by the same body to the labours of Joule and Waterston. It must be acknowledged, however, that original doctrines subversive of those generally accepted require some confirmation from independent observers, and it is not surprising that a body holding the position of the Royal Society should be reticent in publishing the statements made by a young, even though earnest and generally reliable, worker. Still, it is a matter of regret that his important Croonian lecture should not have been printed and circulated soon after it was delivered and that it has had to wait till now to see the light.

A few lines might have been added, giving the place and date of birth and death of the author of the papers.

On Peripheral Neuritis. A Treatise. By JAMES ROSS, M.D., LLD. &c. and JUDSON S. BURY, M.D. &c. London: Charles Griffin and Co. 1893.

THE early death of Dr. James Ross of Manchester deprived the neurological world of one of its most conscientious

workers and careful observers. For some years he had made observations on peripheral neuritis, and this volume, the most exhaustive which has been published in this country on peripheral paralysis, embraces the results of those labours so far as they could be gathered from his papers. The work has been completed by Dr. Bury in a manner which is in every respect worthy of the earlier part of the book. The varieties of neuritis dealt with are idiopathic peripheral neuritis, toxic peripheral neuritis, dyscrasic peripheral neuritis, sensory, vaso-motor, and trophic neuritis and the irritative form of neuritis. In the first group acute ascending paralysis (Landry's paralysis) is included, and whilst there is abundant evidence to show that many cases described as Landry's paralysis are peripheral in character, there is, we venture to think, in this section an undue tendency to force the conclusion that all such cases are of this nature. Even after every allowance is made there still remains a certain and not inconsiderable number of cases in which the most careful examination has failed to reveal the presence of gross changes in the nervous system either peripheral or central. The section on toxic neuritis is very full. It deals with the neuritis caused by diffusible stimulants such as alcohol, carbon monoxide, carbon bisulphide, naphtha &c.; with that resulting from animal poisons, such as diphtheria, measles, malaria, tubercle and leprosy; with that which is the result of metallic poisons, such as lead, arsenic and mercury; and with the neuritis caused by endogenous poisons, such as those of chorea, rheumatism, gout &c. The other varieties dealt with we have already enumerated, and an enumeration will be sufficient to indicate the wide scope of the book and the thorough manner with which the subject is dealt. The book marks an epoch in the literature of the peripheral palsies, and without in any way assuming the mantle of the prophet we would venture the opinion that it will form the base or starting-point from which, for some time at least, research will proceed in various directions.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., LL.D., Professor of Obstetric Medicine in King's College, &c. Eighth Edition. London: Smith, Elder and Co. 1893.

THE appearance of an eighth edition of Dr. Playfair's treatise is ample evidence that, in spite of numerous competitors, it retains its popularity unimpaired. The progress of obstetrics in various directions has made it necessary for the author to make considerable changes in certain of the chapters in the present edition. The subjects that have thus especially claimed attention are extra-uterine pregnancy, the Cæsarean section, symphysiotomy and puerperal septicæmia. We observe that the important chapter on the management of natural labour has been considerably improved by an additional section on the antiseptic precautions which should always be adopted in the practice of modern midwifery. "Every practitioner," says Dr. Playfair, "who is old enough to have practised before antiseptics were used, and who has rigorously employed them of late years, will gratefully recognise the comparative comfort of his present work;" and the fundamental importance of thoroughly washing the hands and nails with a nailbrush and soap-and-water and of soaking the hands in a 1 in 1000 solution of corrosive sublimate, before making a vaginal examination, is most properly insisted on. It would have been better, we think, to have said more clearly that the disinfection of the hands is to take place in a separate basin containing the sublimate solution; from the passage as it stands it might be thought that the washing with soap was to be done in the sublimate solution. The same point occurs in the chapter on puerperal fever: "He should be most careful in the frequent employment of antiseptics in washing his hands, such as the 1 in 1000 solution of perchloride of mercury." We observe that Dr. Playfair still retains the opinion that scarlet fever may give rise to puerperal fever.

There are various passages throughout the work in which reference is made to discussions or observations as having occurred recently, when, in point of fact, for "recently" it would be more correct to read "many years ago." Such passages read curiously, and, in cases where deceased authorities are referred to as if they were still living, the effect is even somewhat painful. Thus, "Matthews Duncan has recently investigated the whole subject at length" &c. The passages in question could be easily altered in an appropriate manner, and they would probably have been altered if the author had been able to undertake the whole work of preparing the present edition himself. "Playfair's Midwifery" seems to us to be still the most readable of the various text-books on the subject, and we have no doubt it will continue to be widely read.

Sanitary Engineering in India, for the Use of Municipalities and Engineers. By JOHN WALLACE, C.E., Bombay. Bombay: Printed at the Education Society's Steam Press. 1893.

SANITARY WORK of various kinds has of late years received an impetus in India, notwithstanding all the difficulties with which it is beset in that country owing to natural conditions and the poverty, ignorance and prejudices that impede its progress. Hitherto sanitary engineering and sanitary reforms have very naturally followed the lines of European principles and experience with too little regard to the great climatic differences between India and England and the notable differences which exist between the social habits and conditions of the populations of these countries. This has, it is to be feared, given rise in the past to wasteful expenditure and inefficiency in various directions. The *raison d'être* of the publication of Mr. Wallace's book is that all these require to be considered by those acquainted with India on their own merits with a mind fortified, but unprejudiced, by European experience. His work is both modest and able as well as opportune. It consists of 238 pages and treats with much perspicuity on the effects of climate and water, custom and habits, in regard to the problems discussed, and deals with such subjects as water-supply, house drainage, sewerage and surface drainage, conservancy, irrigation and sewage farms, and ventilation of buildings, hospitals and mills &c. We are gratified to notice that the author refers in commendatory terms to the report of THE LANCET Special Commission on Sanitation in Relation to the Law and Practice of House-letting, published in August, 1892, which, we trust, was attended with this practical advantage, that it called attention to the sanitary conditions required to be fulfilled before a house could be considered habitable, and to the reforms necessary in the law and practice of house-letting for the better protection of tenants and the advantage of landlords also. The author's objective is Indian sanitary engineering, and all the information he brings forward is made subservient to that purpose, hence the value of the book to anyone having to deal with questions of hygiene and practical sanitary engineering work in that country. Mr. Wallace begins by reminding us that the native of India has lost that delicate perception of smell which distinguishes the European, and also that sewage matter which takes from three to four days to putrefy in England will decompose in one hour in an Indian sewer, which is warmer by some 30° F. Asia is the birthplace of water-works, but very few towns in India have anything like a pure water-supply. It appears that leather if used in the construction of pumps and stand-pipes is thought by the Hindus to defile the water, and that at Allahabad grave complaints were made that lions' and dogs' heads had been used as decorations for the stand pipes.

Natives of these sensitive views will drink the water of, bathe and rinse their mouths in, the streams below points where cholera corpses have been thrown. The problem of house drainage is still in its infancy in India. Mr. Wallace puts it, "Given a people whose taste and immemorial habit is to throw all house refuse out of the doors and windows, and to make a latrine of the street, what is the alternative and inducement you can offer them?" The experience of the past fourteen years in Bombay seems to show that syphon seals working with cast-iron soil pipes are not suited as yet to the habits of the people, and the Corporation are now carrying out six experiments in house connexions in different parts of the town, to try to find something that will work well in India. There are only three towns which possess well-built underground sewers, and in all of them the English system of pipes, syphons and gully-traps seems to result in the syphon on tenement houses acting as a trap to catch (improperly introduced) solid matter and blocking the down-take pipes. Mr. Wallace seems to advise open drains for towns of comparatively small size and iron pipes for the removal of sewage in cities. Anything is better than the open tanks of Cawnpore and Poonah, where the sewage, confined in unsympathetic clay, putrefies freely and makes an indescribable stench for about two years. The sewage farm at Madras is a great financial success and the native cultivators are fully alive to the value of human manure, which is in the highest degree encouraging to sanitarians. Anything like an adequate review of the volume would occupy a large amount of space and we must consequently content ourselves with calling attention to its merits, which are substantial, and to its practical character. It is in many respects an original and useful contribution in a direction where it was needed, and we hope the author will adhere to the intention he has expressed in a postscript of subsequently extending it and of giving particulars and results of various important works that are in the experimental or the progressive stage of development at the present time.

The Dictionary of National Biography. Edited by SYDNEY LEE. Vols. XXXIV.–V. London: Smith, Elder and Co.

THE commendation we felt bound to bestow on the publishers of this work for the rapidity with which each successive volume is placed in the hands of subscribers has to be repeated with respect to the two issues now under review. The remarks also we were impelled to offer in connexion with the appearance of former volumes of the series may fitly accompany our notice of the new comers. We do not propose in this place to do more than very briefly review the leading incidents in the lives of the more distinguished physicians and surgeons whose names figure in the last-published volumes, and these names we may take in their alphabetical order.

Theophilus Lobb, M.D. (1678–1763), educated for the ministry, afterwards transferred his affections from theology to physic. He was created M.D. by the Glasgow University authorities and afterwards became a Fellow of the Royal Society. He practised with great success and wrote several works on medicine, which were highly esteemed at the time, amongst them being a "Compendium of the Practice of Physick."—Of Sir Charles Locock (1799–1875) a very inadequate notice is given in the book, much less space being devoted to the professional career of the Queen's obstetric physician than is in many cases accorded to less distinguished men. He made no pretension to superlative erudition, but his respectable attainments in medical science are attested by his contributions to the "Cyclopædia of Practical Medicine" and to the library of medicine, as well as to periodical medical literature. The efficacy of bromide of potassium in epilepsy was discovered by his instrumentality. In 1857 he was created a baronet, although he declined the honour in 1840.—Henry Lonsdale, M.D. Edin. (1816–1876), was an assistant to and afterwards partner of Dr. Knox, the anatomist, and also of Dr. Reid, the physiologist, with the former of whom he gave daily demonstrations. In the course of his researches he (Lonsdale) discovered in an infant monstrosity the terminal loops of the nerves in the brain and spinal cord of man, which he exhibited under a powerful microscope. His health, however, was precarious and interfered with his prospects in Edinburgh, so that he was advised to return to Carlisle, where he commenced his professional career. His writings were pretty numerous and were not wholly confined to medical subjects.—Dr. Peter Lowe (1550–1612 *circa*) was founder of the Faculty of Physicians and Surgeons of Glasgow, which was inaugurated by Royal Charter in 1599. The history of this physician seems to be somewhat obscure, the chief facts thereof being derived from Finlayson's "Account of the Life and Works of Maister Peter Lowe" (*cf.* Reg. Privy Council of Scotland, viii. 377). It would appear that he was in practice in France, Flanders and elsewhere, "thereafter being chirurgian maior to the Spanish regiments at Paris, two yeeres." From the publication of his books it is clear that he was in London in 1596–97 and that he settled in Glasgow in 1598. In that year he seems to have managed to get into trouble with the ecclesiastical authorities and was twice ordered to stand in the "piller" for offences against those powers.—Richard Lower's name is known to medical biographists as that of a physician who in 1666 assisted the celebrated Willis in his anatomical researches on the nervous system. "Lower," says the author of this sketch, "must be regarded as one of the most important of English physiologists.....His most remarkable experiment was that of the direct transfusion of blood from one animal to another." Though his works were not very numerous, they were of high scientific value.—Charles Lucas, M.D. (1713–1771) deserves to be known for his strenuous endeavours to remedy abuses, alike in his own profession and in social and political life. For his patriotic efforts in these directions he incurred a large amount of inconvenience and even persecution, but he seems to have outlived the devices of his enemies and finally to have succumbed to gout.—Of Stephen Luke, M.D., a very short notice is given. He became physician extraordinary to George IV. His chief contribution to medical literature was his "Observations on the Diseases of Cornwall, 1806."—Robert Spencer Dyer Lyons, M.B. (1826–1886), was appointed chief pathological commissioner to the army in the Crimea and afterwards professor of medicine in the Catholic University, in virtue of which office he was invited by Mr. Gladstone's Government to act on a commission of inquiry into the treatment of Irish treason-felony prisoners in English gaols. In 1881 he acted as Crown nominee for Ireland in the General Medical Council.

The names of twenty-one members of the medical profession more or less distinguished are included in Vol XXXV. of the Biography. Of Henry MacCormac, M.D. (1800–1886) a very slight sketch is given. He had a prolific pen, which he employed on subjects pertaining not only to medicine proper, but to sanitation and philosophy. His services in connexion with the cholera epidemic in 1832, when in charge of the cholera hospital in Belfast, obtained wide recognition, and at a later date, whilst physician to the district lunatic asylum of that city, his successful treatment during another visitation of cholera was so marked that it is recorded that not a single patient whom he treated succumbed to the disease.—The name of Mr. Robert MacCormick (1800–1890), naval surgeon, explorer and naturalist, is known chiefly as surgeon to the *Erebus*, under the command of Captain Ross. He published an interesting book in two volumes, entitled "Voyages of Discovery in the Arctic and Antarctic Seas and Round the World."—Sir James McGrigor, M.D., studied medicine at Aberdeen and at Edinburgh and afterwards became surgeon

to the Connaught Rangers. He was thence transferred to the Horse Guards (Blue), and in recognition of his services in connexion with the Walcheren Expedition was promoted to the rank of Inspector-General of Hospitals and shortly afterwards was appointed chief of the staff of Wellington's army in the Peninsula. After the peace of 1814 Dr. McGrigor was knighted, and subsequently, in 1815, he became Director-General of the Army Medical Department and held the post until 1851. He inaugurated a system of medical reports and returns from all military stations which, twenty years later, formed the basis of the Statistical Returns of the Health of the Army. His writings consisted for the most part of reports and matters dealing with health statistics in the army and abroad.—Sir Morell Mackenzie (1837-1892), studied for a time under Czermak, and ultimately devoted his entire attention to the diseases of the throat and their treatment. His attendance on the late Emperor Frederick III. for cancer of the larynx and the criticism to which his treatment of the Imperial patient was subjected is matter of recent history and need not be revived here. For his services on the occasion in question he was rewarded by having conferred on him the distinction of Knight Bachelor and the Emperor decorated him with the Grand Cross of the Hohenzollern order.—William Mackenzie, M.D. Glas., M.R.C.S. (1791-1868), was distinguished as an ophthalmologist and was appointed surgeon-oculist to the Queen in Scotland. His treatise on "Diseases of the Eye" was for long regarded as a standard work and other writings on kindred subjects were held in high esteem.—John Macpherson, M.D., Inspector-General of Hospitals, the author of "The Baths and Wells of England," the substance of which was published in our columns, was a man of extensive information derived chiefly from travel.—The name of Dr. J. O. M'William (1808-1862) should not be omitted from the list of eminent medical men who distinguished themselves in the naval service of their country. As surgeon of the *Albert* in the Niger Expedition the command of the vessel devolved on him and Dr. Stanger, the geologist of the expedition, for some days the whole of the officers and crew being prostrated by fever. The history of this expedition, written by Dr. M'William, affords a striking example of his enterprise and energy.

But considerations of space prevent reference to the doings of other medical worthies whose names figure in the two volumes under review.

Mountaineering. By C. T. DENT. With Contributions by W. M. CONWAY, D. W. FRESHFIELD, C. E. MATHEWS, C. PILKINGTON, Sir F. POLLOCK, H. G. WILLINK; and an Introduction by Mr. Justice WILLS. Illustrations by H. G. WILLINK and others. London: Longmans, Green and Co. 1892.

MOUNTAINEERING, as pointed out in these columns nine years ago, dates from the Renaissance, and—interesting to note—its great pioneer was a physician. Till then the ascent to mighty altitudes for the enjoyment resulting to mind and body from the undertaking was well-nigh, if not absolutely, unknown. Certainly it was not a Greek or Roman pastime. In truth, the love of nature for her own sake is, in both these civilisations, conspicuous by its absence. We have no conclusive evidence of its existence amongst the Greeks; and as to the Romans, if they failed to realise the "rus in urbe," they were still less able to forget the "urbs" in the "rus." A Roman's idea of a villa was the importation of town comforts and appointments into country surroundings, whilst these latter were prized not for themselves but for their moral accessories, such as exemption from business cares and from "the noise and smoke and questions wearisome" of the Mistress of the World. Of all the able and accomplished patricians, consuls or commanders, who crossed the Alps, not one seems to have brought back any other impression than that of horror and repulsion. The genesis of nature-worship is an interesting study in comparative psychology—its first indications being found not in the Latin but in the Teutonic races—not (as French writers with characteristic self-satisfaction maintain) for the first time in Jean Jacques Rousseau but long before him, in our own Milton, for example, in Addison and in Gray. All of these poets have put on record—in prose as well as verse—an appreciation of the sublime and beautiful in nature distinguishable in degree only, not in kind, from that which lives in the pages of Burns or Coleridge, Scott or Byron. A century before Milton, Conrad Gesner—the "German Pliny" and the physician already alluded to as the pioneer of mountaineering—published his "De Admiratione Montium," a rapturous eulogy of the wild, the grand, even the sombre aspects of Alpine scenery altogether unknown to pre-Renaissance literature. As Sir F. Pollock says in his carefully compiled "Early History of Mountaineering" with which this volume opens, Conrad Gesner's writings and excursions "leave no doubt possible" that the modern Alpine peak-stormer "ought to revere him as a true ancestor." To the present day, the association of scholarship and science with love of mountaineering for its own sake—an association consummately embodied in Gesner—continues to gain in intensity. "The English leaders of Alpine exploration," Sir F. Pollock proceeds to show, are either "men of science or men who, as University residents or otherwise, maintain a close connexion with the scientific and scholarly traditions of the Universities." The whole chapter from which these passages are taken is attractive enough to throw a glamour of its own upon the series it introduces and must awaken in the most "home-keeping youth" or the most confirmed "arm-chair student" an interest even in the technical details of mountaineering which will not rest satisfied till the last page of the volume is reached.

Another great pioneer in Alpine exploration was, also like Gesner, a medical man—Albrecht von Haller, the discoverer of muscular irritability. In his fine didactic poem on the beauties of the Swiss mountains and the virtues of their hardy denizens he is inspired by the true nature-worship which animates the rock-climber, and so prepared the world for the sentimental rhapsodies with which Jean Jacques Rousseau took the next generation by storm. But we have said enough to vindicate the claims of the profession as a forerunner in this essentially modern and manly enterprise, and must now examine some of the details by which its pursuit is facilitated and its undoubted dangers minimised. This part of the exhaustive treatise before us has mainly devolved on the eminently competent shoulders of Mr. C. T. Dent, who discourses with the ease and practical force of a master on "equipment and outfit," on the "principles of mountaineering," on "reconnoitring," on "snowcraft," on "rock-climbing" and on "mountaineering and health." It is the last of these chapters that interests us most, and we may at once offer him our congratulations on the care and, in the main, on the accuracy with which he has handled what may be called the hygienic side of his theme. It is not every man who is fitted to be a mountaineer. "There are men," says Mr. Justice Wills in his witty introduction, "who dedicate their hours of recreation to boating, a glance at whose rowing form shows that nature meant them for the mountain side; others, bent on distinction as mountaineers, betray their natural bent by a passion for *sliding seats!*" "Non cuivis homini contingit adire cacumen," to parody Horace. And Mr. Dent, while admitting that men climb, as trainers say horses run, "in all shapes," formulates his preference for "the wiry man of average height and of a weight proportioned to his stature." But he must begin early so as to train betimes the three factors of all active exercise, as

Oliver Wendell Holmes has defined them, factors which must be simultaneously in action, "the will, the muscles and the intellect." Then follows a list of recommendations as to equipment and outfit (drawn from "that best of all teachers Experience, if her fees were not so heavy!"), on which we have no criticism to pass. On these, as on the kindred topics of "reconnoitring," "snow-craft" and "rock-climbing," we bow to recognised authority and also confess our inability to improve on the instructions he gives to mountaineers on "sunburn," "snow blindness" and "frost-bite," which are sound and practical, as might have been expected from a hospital surgeon. We are afraid, however, that the paragraph on "Mountain Sickness" is not quite up to date. The writer has nothing to say on the blood changes induced by the air at altitudes much lower than that of Mont Blanc and withholds the word of warning specially required by individuals whose circulation is deficient in quality, in quantity and in recurrent force. When the Swiss physicians at the recent Congress held at Chur urged the necessity of attaching to the mountain railway service now spreading over Switzerland a permanent staff of medical officers at the starting-point and terminus of such lines as that in contemplation for the Jungfrau, they had in mind the dangers inseparable from high altitudes and the rapid multiplication of the blood corpuscles induced by respiration at these heights. Mr. Dent admits that mountain sickness may come on with great suddenness and in a manner so unexpected as almost to be capricious. What is this but to admit that no man should venture on a peak-storming expedition 2000 metres above the sea level without a previous testing of the state of his heart?

These observations are scarcely applicable to the "Hill-climbing in the British Isles," on which Mr. Charles Pilkington gives us an excellent chapter. Comparatively low as these altitudes are the bodily state of the climber, though not quite a *quantité négligéable*, need not demand such elaborate diagnostic preliminaries as the Swiss mountain peaks make imperative. On the other hand, there are conditions of climate apart from height above the sea level which necessitate caution—conditions to which Mr. Pilkington is fully alive. Another admirable contribution to the volume is Mr. Mathews' "Recollections of a Mountaineer," full of a manly sentiment, occasionally pathetic in its strain, which the reader will find very fascinating. We must correct him in one detail, however. The late James David Forbes—from a certain aristocratic reserve called "icy Forbes"—whose transcendent merits in Alpine exploration cannot be sufficiently eulogised, was not a "professor of natural philosophy in the University of Cambridge;" he held the chair on that subject in the University of Edinburgh, his predecessor being Sir John Leslie and his still active successor Mr. Peter Guthrie Tait.

One word as to the illustrations. They are judiciously arranged so as to assist the letterpress, and when not, so to say, "didactic" in their aim, are instinct with a sense of humour which runs like a silver thread throughout the whole of the delightful volume.

MEDICAL DEFENCE UNION (LIMITED).—An important meeting of the profession resident in Manchester and the neighbourhood was held under the presidency of Mr. Walter Whitehead at the Victoria Hotel, Manchester, on July 19th. About eighty medical men were present. Mr. Victor Horsley and Dr. Leslie Phillips attended and spoke on the subject of the organisation of the profession for defensive purposes. Mr. Whitehead pointed out that if the profession would act together in this important matter an annual subscription of ten shillings would produce about £17,000, a sum with which much could be done to raise the position and tone of the profession. It was unanimously resolved: "That in the opinion of this meeting a professional organisation for defensive purposes is essential; that the Medical Defence Union meets this want; and that a local committee should be formed."

THE INTERNATIONAL MEDICAL CONGRESS.

THE National Committee for Scotland, consisting of Professor Grainger Stewart (chairman), Professor McCall Anderson, Mr. Joseph Bell, Mr. G. A. Berry, Dr. Byrom Bramwell, Dr. A. Bruce, Mr. John Duncan, Dr. W. J. Fleming, Professor T. R. Fraser, Professor W. T. Gairdner, Professor D. J. Hamilton, Professor M. Hay, Dr. P. McBride, Professor W. McEwen, Sir Douglas Maclagan, Dr. R. W. Philip, the Right Hon. J. A. Russell, Dr. W. Russell, Professor W. Rutherford, Professor A. R. Simpson, Dr. R. Stockman, Dr. J. B. Tuke, Sir William Turner and Dr. G. A. Gibson (secretary), have considered the arrangements for the forthcoming Congress in Rome and resolved to publish such information as may be of use to those intending to take part in it.

The subscription of £1 may be paid on arrival in Rome or may be remitted previously to the treasurer, Professor Pagliani. In order to participate in the advantages offered by the various railway companies intending members should obtain the following documents:—

1. Ticket of membership, which is required by the English railways.
2. Letter of invitation, required by the French railways.
3. Card of legitimisation, required by the Italian railways.

Ladies may obtain lady-members' tickets on payment of 10 lire (about 8*s.*).

On the English railways only members are allowed to travel at reduced fares, but on the French and Italian lines the ladies and children of members have equal advantages with them on showing cards of legitimisation. No reduction is made on the Swiss or German lines. Tours in Italy may be made at a reduction of 20 per cent. on the fares.

Travellers going direct may travel to Rome and back for single fare. The following are the ordinary single journey fares to Rome by the French and Italian lines:—

Route.	Class. First.	Class. Second.	No. of Days Valid.
	£ s. d.	£ s. d.	
Dieppe, Paris, Turin, Genoa, Pisa	8 13 7	6 1 5	17
Dover, Calais, Paris, as above	9 19 6	6 19 6	17
Dieppe, Paris, Marseilles, Genoa, Pisa ..	10 1 6	7 0 0	30
Dover, Calais, Paris, as above	11 6 3	7 18 0	—
Dieppe, Paris, Turin, Bologna, Florence..	9 5 9	6 10 0	17
Dover, Calais, Paris, Turin, Bologna ..	10 11 3	7 7 9	17
Dieppe, Paris, Turin, Venice, Florence ..	10 10 3	7 7 0	17
Dover, Calais, Paris, as above	11 13 6	8 5 9	17
Dieppe, Paris, Turin, Milan, Florence ..	9 9 0	6 12 6	17
Dover, Calais, Paris, as above	10 11 9	7 10 3	17

Messrs. Thomas Cook and Son will be glad to give all information as to the journey and accommodation and they have arranged a specially conducted party. The inclusive fare will be—first class, £16 10*s.*; second class, £13 10*s.*[1] If with full board (three meals a day), consisting of meat breakfast, dinner and plain tea, or plain breakfast, luncheon and dinner, £3 7*s.* 6*d.* extra. Information can be obtained at the chief office, Ludgate-circus, London, E.C.

Dr. Lunn, editor of the *Review of the Churches*, has organised a "Coöperative Tour to Rome for 20 guineas." Applications should be made to 5, Endsleigh-gardens, London, N.W.

Messrs. Anderson, Anderson and Co. have arranged that the ocean steam yacht *Garonne* shall be despatched from Tilbury Dock on Sept. 12th for a month's cruise, allowing passengers to attend the Congress. Applications should be made to 5, Fenchurch-avenue, London, E.C.

A committee in Rome will take care of the arrangements as to accommodation.

[1] These rates apply to delegates only. Fares for friends will be quoted upon application.

THE LANCET.

LONDON: SATURDAY, JULY 29, 1893.

WE have opened our columns freely to the discussion of the subject of medical aid associations and their bearing on the interests of the profession and the public. The importance of the question, especially as one of medical ethics which has been under consideration by the General Medical Council, has caused us to devote much space to the debate in the Council and to the letters of our various correspondents. These letters reflect very effectually the general feeling of the profession on the subject, which, it must be confessed, is somewhat vague and various. We have no wish to be too severe on the General Medical Council for not immediately recognising that the acceptance of these appointments, in some cases, may involve a breach of the most obvious professional morals and for declining to formulate rules for the prevention of such a breach. There is undoubtedly a legitimate distinction between "minor morals" and major ones, but it is rather a new doctrine that the disciplinary functions of such a body as the General Medical Council do not include any consideration of the disregard of "minor" morals by the profession. Surely the "major" morals are not so much the care of the General Medical Council. It is rather for society and the courts of law to take notice of these and to visit the delinquent with the punishment due to offences against the law of the land. The General Medical Council in such cases follows the courts of law. If a medical man steals, or commits perjury, or forgery, he is sinning in the region of the "major" morals and he will come under the notice of the police and of the law courts; but there is a further code of morals, more or less formulated, compliance with which is expected amongst the professions. The medical profession has such a code which involves a corresponding refinement of conduct. The morals are "minor morals," but the observance of them distinguishes a profession from a trade and makes certain lines of conduct, which in business would be altogether permissible and proper, quite inadmissible in the case of a profession. We will not here discuss whether these morals have been violated by the acceptance of any of the sixty or seventy appointments which were lately brought under the notice of the General Medical Council. We may point out, however, that the morals involved are for the most part not major morals, but minor ones, and that it is minor morals, as distinguished from major ones, which have to be enforced by professional corporations and by that body which includes all the professional corporations and direct representatives of the whole profession—viz., the General Medical Council. It is the observance of such morals that has given a certain tone and character to medical conduct in the past, and this has been duly recognised by the public, and is undoubtedly beneficial to the public interest. Practically every medical man has felt it an obligation to observe this standard of conduct. Sir JOHN SIMON deprecates the multiplication of professional offences and the development of hyper-sensitiveness as to what medical men may do in the somewhat rough days of professional pressure on which for the moment we are fallen. He does not, however, differ in principle from those who recognise great questions of professional conduct arising out of these appointments. "Only," he says, "do not bring them before the Medical Council." Let them be settled by the British Medical Association, as several of our correspondents have also argued. The Association is about to meet in a few days and we shall see how far it feels able and disposed to lay down rules for the guidance of the profession in this and similar matters. Meantime it is not, however, at all clear to us that this is the best way of settling such matters. The suggestion if carried to its logical conclusion is that voluntary medical associations shall prescribe the terms and conditions on which medical men should accept these large appointments and that those who do not observe these terms and conditions shall be "regarded as beyond the pale of professional courtesies." This is a somewhat rough way of asserting refined principles of professional conduct and partakes too much of the style of trades unionism. The fact is that medicine is not a profession which can assert itself in this way; for the medical men of a town to "strike" would be of the nature of a scandal, and for them to refuse in a grave emergency to meet the medical officer of a medical aid association would be equally so. By all means let the voluntary methods and associations be tried. If they succeed, we shall rejoice. If not, the disciplinary powers of the profession must be asserted through its various bodies, where this is practicable, and through the General Medical Council where it is not so. Unfortunately, the individual medical authorities are very slow in using their powers of discipline and in some cases shirk the duty altogether. Ultimately the public and the profession look to the General Medical Council to see the discipline of the profession vindicated. A legal critic has said in our columns, after watching and studying the recent debate, that the "great professional and public interests entrusted to the Medical Council are in perfectly safe keeping and that any listener to it would gather that it would be quite impossible to induce the Medical Council to move forward even along the path marked out for it by the Medical Act except in the most gradual, prudent and cautious manner." He was, however, by no means in agreement with Sir JOHN SIMON as regards the question of morals and the duty of the General Medical Council in respect of them. Nevertheless the Council will not be severely blamed for reluctance to use its disciplinary powers whilst the powers of the voluntary associations of the profession and the legitimate authority of its corporations have not been fully tried.

IN one of the most charming of his discourses Cardinal NEWMAN discusses the relation which should subsist between general culture, or what is often termed a "liberal education," and that technical and professional training the end of which is to fit the individual for his own peculiar department of work. These two types of training are often in apparent conflict. There are those who are impatient of all

expenditure of time and effort for which there seems to be no evident or adequate return, who recognise in a somewhat narrowly interpreted utility the only proper standard of education and who are eager to subject every individual to a rigid routine adapted, or supposed to be adapted, to ensure excellence in his chosen life work. Others, again, regard all such reasoning as fallacious; they lay emphasis rather upon the culture of the faculties as a whole than upon the mere acquisition of technical knowledge or special dexterity; they desire to mould the perfect man "totus, teres atque rotundus," rather than the skilful lawyer, the capable politician or the wise physician. Our educational bodies often feel themselves in a difficulty between the competing claims of general knowledge on the one hand and professional knowledge on the other. Proficiency in the latter is assumed to be indispensable as a matter of course, but it is realised more or less clearly that without the former the ablest man may degenerate into a bigot or a faddist. It may not be amiss to hear what so clear a thinker and writer as Cardinal NEWMAN has to say on this important topic.

"Certainly," says Cardinal NEWMAN, "it is specious to contend that nothing is worth pursuing but what is useful, and that life is not long enough to expend upon interesting, or curious, or brilliant trifles. Nay, in one sense, I will grant it is more than specious—it is true; but, if so, how do I propose to meet the objection? I have met it already—viz., in laying down that intellectual culture is its own end; for what has its *end* in itself has its *use* in itself also. I say if a liberal education consists in the culture of the intellect, and if that culture be in itself a good, here, without going further, is an answer to the question; for if a healthy body is a good in itself, why is not a healthy intellect? And if a College of Physicians is a useful institution because it contemplates bodily health, why is not an Academical Body though it were simply and solely engaged in imparting vigour and beauty and grasp to the intellectual portion of our nature?" This, then, is the first answer to those who object to youths, who are destined for the law or for medicine, spending valuable time upon literature or philosophy, or upon some department of science not directly connected with their chosen vocation. The answer amounts to this—that it behoves everyone in so far as in him lies to have a sane, healthy and well-balanced mind, that this end is as important as professional skill and success, and that the experience of mankind has shown that it is promoted by what are known as "liberal" studies. It is by the study of history, poetry, criticism, mental, moral and biological science—a study simply undertaken with the object of acquiring a true knowledge of the subjects studied—that the mind gains strength and flexibility, that it learns its own powers and limitations, that it attains to just harmony and true balance, that it eliminates its defects and excesses—in a word, that it attains to its own true health. We endeavour to cure a paralysis or restore a broken limb without inquiring too curiously as to what use the patient will make of his recovered strength; and we may fairly adopt the parallel and claim that we are justified in remedying the defects and the weaknesses of the mind without conscious or direct regard to the work upon which it may be subsequently employed.

But this is only a part, and the smaller part, of the defence upon which rests the justification of liberal culture. The more important element remains to be considered—viz., that such culture creates the disciplined mind, and that the disciplined mind approaches all branches of professional studies with immense advantages. Cardinal NEWMAN says: "The man who has learned to think and to reason, and to compare and to discriminate and to analyse, who has refined his taste and formed his judgment and sharpened his mental vision, will not indeed at once be a lawyer, or a pleader, or an orator, or a statesman, or a physician, or a good landlord, or a man of business, or a soldier or an engineer, or a chemist, or a geologist, or an antiquarian; but he will be placed in that state of intellect in which he can take up any one of the sciences or callings I have referred to, or any one for which he has a taste or special talent, with an ease, a grace, a versatility and a success to which another is a stranger." Probably this view is always held more or less implicitly even by those most eager to disparage liberal culture and to exalt technical and professional knowledge. Some preparatory training is universally adjudged to be requisite, but we need to realise clearly that the preliminary culture of the untilled soil of a youth's mind is just as essential as the planting in that soil of the seed of the particular fruit which it is destined to bear. Hasty methods are always bad methods and crude fruit is rarely good fruit. To quote once more: "We admit that when a person makes a business of one pursuit he is in the right way to eminence in it, and that divided attention will rarely give excellence in many. But our assent will go no further. For, to think that the way to prepare a person for excellence in any one pursuit is to fetter his early studies and cramp the first development of his mind, by a reference to the exigencies of that pursuit barely, is a very different notion, and one which deserves to be exploded rather than received. Possibly a few of the abstract, insulated kinds of learning might be approached in that way. The exceptions to be made are very few and need not be recited; but for the acquisition of professional and practical ability such maxims are death to it. The main ingredients of that ability are requisite knowledge and cultivated faculties; but of the two the latter is by far the chief. A man of well-improved faculties has the command of another's knowledge; a man without them has not the command of his own."

We need hardly say that we should be the last to undervalue or depreciate professional knowledge and skill, especially in connexion with medical study and work. They are invaluable and absolutely indispensable; their utility and their necessity are universally recognised. The equally important fact that the well-stored mind and the generally educated brain are indispensable preliminary conditions of the highest professional excellence must, however, never be overlooked.

IF the efforts of certain Members of Parliament to arrive at some sound information as to the adequacy of the existing provision for the isolation of cases of infectious disease in the metropolis, especially amongst the poor, have been somewhat unsuccessful, it is not their fault. At any rate they have not left the subject exactly as they found it and they have raised questions which will have to be answered. They have had this success—and it is a great one—it has been demonstrated that both the Local Government Board and

the Metropolitan Asylums Board are living very much from hand-to-mouth, and that in the discharge of their great duties in regard to the isolation of cases of infectious disease they are acting without that regulation and system which are essential in an undertaking so vast and so far-reaching. It is curious to note the difference which ten years have made in the aspect of the problem. At that time the disease most "feared of man" was small-pox, and the chief thoughts and plans of the Royal Commission of 1882, which was appointed to report on small-pox and fever hospitals, had reference to small-pox and the means of curtailing it. For the last six years we have had, thanks partly to better sanitary legislation and to revaccination, a great immunity from small-pox; but there has been a great development of scarlet fever and of diphtheria. The small-pox hospitals, to which the greatest attention and space had been devoted, have been given up to fevers, and small-pox has been, until this year, almost entirely in abeyance. Nevertheless, the provision of beds in the Metropolitan asylums has proved so inadequate for the accommodation of cases of scarlet fever and diphtheria that about 50 per cent. of the applications for admission of patients suffering from these diseases have had to be refused. Mr. FOWLER, in answer to Mr. COHEN on June 29th, said that he was informed that the number of beds available for diphtheria and other (excluding small-pox and scarlet fever) cases, was 238. On Saturday last the secretary of the Metropolitan Asylums Board said that they had actually in the hospitals 270 cases of diphtheria, and that in the last fortnight they had received notifications of 574 cases; in other words, that more than half of the cases of this disease calling more urgently than almost any other for isolation, were outside and beyond the means of accommodation arranged for by the Metropolitan Asylums Board. The important question to be settled is whether this pressure on the accommodation of the Metropolitan Asylums Board, as the great isolating authority in London, is normal or abnormal; whether it is due to an unprecedented prevalence of scarlet fever and diphtheria; or to the indiscriminate admission into the hospitals of patients who could be isolated at home. Neither the Local Government Board nor the Asylum Managers have taken any steps, or have the means, to answer the question. The law puts upon the Local Government Board the duty of prescribing the "regulations and restrictions" under which the Metropolitan Asylum Managers may admit those who are not paupers. Mr. FOWLER says candidly that the Local Government Board, trusting to the discretion of the Managers, has not prescribed any such regulations and restrictions. When asked for information as to the refusal of accommodation amounting to nearly 50 per cent. of cases of scarlet fever and diphtheria, he admits that such a statement is impossible, as no system of registration has been adopted. It should be possible without undue trouble to give the address of each case in the hospitals and some particulars of the social condition of the family from which the patient came. With such particulars it would be possible to take a census of cases of scarlet fever and diphtheria, with much addition to our information and some light as to the efficacy of our isolation hospitals, which are at once so costly and so inadequate. But Mr. FOWLER'S answers justify no hope of such information or even of any system in the future. He says that the Local Government Board has to consider Parliament and the public; but surely he might define the regulations and restrictions which are to be prescribed by his Board, and without which the existing accommodation, already straining the supply of suitable sites within the metropolis, will become more and more delusive and unsatisfactory. The axiom that where isolation is enforced the means of it must be found by the State in cases where it cannot be carried out at home is a sound one; but the State is not called upon to isolate those who have the means of carrying out isolation for themselves. The very duty of catering for the poor makes it incumbent on the authorities charged with this task to guard the provision made for them from being used by those who do not need it, and there is no proof that this duty is being discharged.

WRITING in the *Nineteenth Century* on "The Craving for Fiction," Sir HERBERT MAXWELL throws some light on one of the striking characteristics of the present century. "Hedonism," he says, "the doctrine of ARISTIPPUS, which sets pleasure as the right aim of existence, seems to be the spirit ruling the readers of books: pleasure, that is, not of a grossly material kind, for the disciples are often as free from the thrall of the senses as from the discipline of strenuous research; but pleasure *quand même* not the less so because directed and controlled by culture and knowledge." He proceeds to show by figures drawn from some of the great free libraries that, of the works asked for and presumably read, novels constitute the immense majority—in some cases as much as four-fifths of the whole. To account for this remarkable preponderance by simply referring it to any assumed depravity or indolence on the part of the reading public is not very satisfactory or conclusive. The question remains why mankind and womankind so largely seek distraction and solace in the pages of fiction rather than in some other of the many amusements open to them? The question is well discussed by the reviewer, who declines to regard the craving for fiction as a morbid phenomenon, but prefers to regard it as complex, partly natural and healthful, but partly also tending to enervation and unrest. The novel-reader in some cases prefers his historical novel, his "Quentin Durward" or his "Last of the Barons," because in reality it is truer—i.e., more vivid and lifelike, than any history. FIELDING, as we are reminded, once said that nothing was true in history except the names and dates, whereas in fiction everything was true except the names and dates. Modern historians have more or less recognised the truth of this satire and have set themselves, often with the most brilliant success, to write history with the vividness, terseness, and picturesque force which were too long the monopoly of novelists. The popularity of the historical writings of MACAULAY, FROUDE and LECKY shows that when the historian does not disdain the attractive arts of the novelist he can equal or excel him in finding access to the sympathies and affections of his readers. If the novelist in some instances surpasses the historian in romantic interest and thrilling effect, the explanation is that the former can invent and arrange fact and incident in the most dramatic way, whilst the latter has to work within recognised and prescribed limits.

There is much to be said for the view that a craving for fiction is one of the deepest and most ineradicable of human

instincts. Children differ in many particulars, but it would be hard to find a child who does not brighten at the prospect of a story however inept the narrator or feeble the narrative. The delighted interest with which children, almost without exception, listen to the most absurd tales of giants and fairies, genii and goblins, is surely a very striking phenomenon. Is it the opening mind's earliest excursions into the great unknown, the mysterious universe which laps frail humanity in its bosom and bears it on to inscrutable destinies? Is this the secret? At least the current explanation of the craving for fiction in the adult—viz., that it is a morbid passion for "poppy and mandragora," for anything that will blot out the trials and vexations of the passing hour—will hardly apply to children without great qualification. Curiosity is without doubt the main factor in the child's eager demand for stories, and curiosity of another kind is probably one of the great forces which govern the ordinary novel-reader—curiosity as to how other classes, nations and individuals live. As Sir HERBERT MAXWELL says: "The truth about the popularity of novels is that most people, being discontented with their environment, find relief in contemplating an ideal society where tedium is unknown and disappointment is generally circumvented; and, on the other hand, there is afforded to those who are moderately virtuous and prosperously at ease the pleasure of contrast in narratives of crime, hardship or disaster, without the responsibility of relieving or the exertion of sharing these conditions. The hedonist who is not so well off as he feels he ought to be tickles his imagination with the power and pleasure derived from wealth by the Count of MONTE CHRISTO. The man who finds himself unable to derive much exhilaration in the conversation of his own valet takes much enjoyment in reading the quaint sentences in which SANCHO PANZA or SAM WELLER framed their philosophy. Has a woman been denied the gift of beauty—she is free to identify herself for the time with the fortunes of DI VERNON or TESS of the "D'Urbervilles." Is a man tied to the colourless routine of a counting-house—what a stirring playground is open to him in the never-flagging adventures of DUMAS'S "Trois Mousquetaires"? It is this desire for psychical stimulants which, to some considerable degree, accounts for the craving for fiction and is also one of its chief dangers. This craving is not wholly or necessarily morbid. To crave for relief, even in imagination, from monotony and routine, from the noise and ugliness and gloom of great cities, to long to roam the wide world in fancy if not in reality, to yearn like ULYSSES—

> "To follow knowledge like a sinking star,
> Beyond the utmost bound of human thought,
> * * * * *
> To sail beyond the sunset and the baths
> Of all the western stars."

All this is not wrong, always provided that it does not generate a loathing and incapacity for the ordinary duties of life. But therein lies its danger. Fiction is like other stimulants, bad as food but useful, or at least harmless, as an occasional luxury. The disquieting fact at present is not that novels are largely read but that they seem to be so much superseding all other forms of literature. Yet there may lurk more or less of a fallacy in the returns of the free libraries. In order to get at the real state of the case we should require to have also the returns from the booksellers—in other words, we should require to know not only what people borrow, but what they buy. Borrowing and buying, we suspect, would be found to run on rather different lines. We confess we have been pleasurably surprised at some facts which have recently come to light, showing to what a very large extent the best new works of poetry are purchased. The taste for reading is one of the most innocent and, in the long-run, most salutary of all our tastes, and if the love for fiction does nothing more it at least creates and keeps alive this taste. It is hardly to be expected that the majority of men and women should read wisely. It is well that they read at all and we may hope that the general average of taste will progressively rise and that the love of fiction, which will always exist, will be found consistent with a greater devotion to the higher departments of literature.

Annotations.

"Ne quid nimis."

THE MEDICAL OFFICERS OF H.M.S. "VICTORIA."

IT is very properly recognised as a good and wholesome rule to abstain during the progress of a trial from all comments which are directly or indirectly calculated to influence or prejudice the minds of those engaged on it. There are some points of public interest in connexion with the evidence of Fleet-Surgeon Mackay-Ellis of the *Victoria* on the 21st inst. in regard to the disastrous loss of that vessel which do not, however, come within this category and to which we may fairly call attention. Fleet-Surgeon Mackay-Ellis had been attending the late Admiral Tryon for a month past and up to the very day of the disaster in question. The Commander-in-Chief was suffering from a purely local ailment, a small ulcer of the leg, unattended by any fever or disturbance of the general health in any way. The affectionate regard and fastidious sense of honour and loyalty with which every witness has tried to guard and protect the memory of the late admiral are such as might be expected of British officers and seamen, but these feelings were evidently so sincere in the present case that they speak volumes for the character and qualities of the deceased admiral. The relations between a medical officer and his patient are frequently so intimate, frank and confidential that they leave no room for disguise or doubt, and we can all appreciate the tribute which Fleet-Surgeon Mackay-Ellis spontaneously paid to the late admiral's memory and the emotion which he is stated to have manifested in making it. But what we desire to call attention to is the discipline, sense of duty and disregard of self which characterised all that took place on board the ship in the brief interval that ensued between her being struck and her foundering. The succour of the sick and helpless was the first thought and care of the naval surgeons, who appear to have done all that was possible to be done by brave men acting with cool judgment under such circumstances. It is happily rare indeed that men are tried by such tests as these, and the exhibition of manly fortitude and discipline shown by all on board the ill-fated ship was a spectacle of which any nation might well be proud, although it terribly augments the sense of the loss that has been sustained.

ECONOMY IN HOSPITAL WORK.

AMONGST the points which the hospital census returns bring into marked prominence is the loss of power entailed in the administration of the very small hospitals. We have also

where pointed out that one officer to two patients is a fair approximation to the proportion between these two classes which the return discloses and from which the case of any large institution does not materially differ unless where the accommodation of a part of the staff in a separate building or some circumstance like that may reduce the proportion appreciably below the average. But in some very small institutions the allowance is extravagantly exceeded. In some cases, no doubt, accidental circumstances, such as the presence of strangers, may have given an incorrect aspect to the return, a fact which must be borne in mind in considering the following cases, collected here as examples of the class of returns to which we allude. Thus the Home Hospital has 7 inmates, of whom 3 are patients; the Medical and Surgical Home, 17 inmates, of whom 8 are patients; the St. Saviour's Cancer Hospital, 47, of whom 20 are patients; the St. Peter's Hospital has 21 inmates, of whom 9 are patients; the North-Eastern Hospital for Children, 31, of whom only 6 are patients. Indeed, by selecting in this way it is possible to make a list of fourteen institutions, having in the aggregate 218 patients and 441 inmates, or apparently one resident officer for every patient. Now, making all possible allowance for accidental circumstances, such as the presence of strangers or the unaccustomed depletion of the ranks of the patients on the particular occasion when the census was taken, it is nevertheless impossible to believe that we have not here some grievous waste of power. The efficiency indicated by the figures is only one-half that shown by the grand total figures, and it is quite out of the question that mere accident should explain the whole of that discrepancy. Nor is it difficult to discern the real explanation lurking in the facts. It will be seen that these are small institutions, averaging rather under 16 patients each. In fact, the effective average is much less than 16, for one of them contributes 66 to the total. Now, as every one such small institution must have a complete staff, it follows that supervising officers must be much more numerous than where supervision extends over a wider area. What is obviously true of the superior officers is only less manifestly true of many amongst their subordinates. In hospital organisation as in engineering, and all other forms of coördinated work, economy of power is intimately dependent upon the adoption of a unit of suitable magnitude for the purpose in view neither so large as to be unmanageable nor so small as to be fitful and unstable in operation. The vice of excessive and unwieldy size is not to be made manifest by any manipulation of the present figures; that of unthrifty subdivision needs no manipulation to display it, for it is here "writ large."

MEDICINE IN RELATION TO WORK, RECREATION AND CHARACTER.

NOT a few jewels of thought and language adorned the address delivered last week by Sir John Lubbock to the students of Guy's Hospital. As befitted the occasion, its whole tone was exhilarating, its teaching at once wise, practical and genial. It was, moreover, illuminated with a ray of hope which augured success to every honest worker. Practitioners as well as students may take encouragement from a statistical inquiry quoted on this occasion, in which it was stated that of 1000 students whose after careers had been traced by Sir James Paget only twenty-five had failed in life from causes beyond their own control. Personal management was discussed with excellent judgment. Health, like charity, said the speaker, should begin at home. The relief of our neighbour implied no ascetic neglect of ourselves. Even under the spell of intellectual occupation the care of the body had its rightful place, and exercise was a positive, if a difficult, duty. Every student who has really worked will endorse this sentiment. In the case of most men the difficulty is characteristic not only of the student period, but it is, nevertheless, one which ought to be met and overcome and in this regard a judicious method is invaluable. The student life is, or ought to be, a short one. Soon it is merged in the more continuous energies of responsible practice and here is ample scope for the action of faculties which are not acquired by mere book-study. Sir John Lubbock was particularly happy in dealing with this part of his subject. None of us will dispute his assertion that for the medical practitioner one quality—if it can be so simply described—is of paramount value—namely, character. In this we have something quite distinct from mere learning, something nearer of kin to wisdom. Thought, will, patience, courage, faith, sympathy, energy are each but tributaries to its uniting force. They are each and all in constant request with the healers of disease. Especially would we assert this in regard to the skilful and fully occupied general practitioner. No man is in his daily work more frequently, unexpectedly, or severely tried than he. His every hour, if he labours well and truly, brings its test, and though he be not such at the outset he has countless opportunities of becoming by stages of experience a man of mature mental and moral habit. To reach this point of attainment by the path of daily duty is to gain even more than material success, and to wear the laurel crown of distinction in medical practice.

THE HEALTH OF SWITZERLAND.

A HOLIDAY contributor writes:—"A successful season, from the Swiss point of view, means a considerable preponderance of the English-speaking visitors over the German, Italian or French. The year before last it was the Germans who were in the ascendant, the cholera scare having well-nigh emptied the North Sea ports, such as Hamburg, and transferred their travelling population to the Swiss *pensions* and hotels; and yet, though in numbers the season counted more visitors than usual, the comparative diminution of the English-speaking contingent made it, in Swiss eyes, a bad one. Last year the balance between English and non-English was more sustained, but the aggregate number was rather below the average; this year the scale will once more turn in favour of the non-English contingent, for, whilst the English proper are numerous enough, the American wing of that contingent is but poorly represented. For this there are two reasons: First, the World's Fair at Chicago has kept the American travelling public pretty much at home, and, secondly, the cholera-shadow, already deepening over Western and North-Western Europe, deters the Transatlantic visitor not so much through fear of the malady itself as of the vexatious impediments which quarantine opposes to his return. So once more, from a Swiss point of view, the present season promises unfavourably. The health of the country itself, meanwhile, through all its cantons has seldom been better—seldom been less fraught with sanitary deterrents. The weather, to begin with, though variable, has not, on the whole, been unpleasant, the undoubtedly high temperature that has ruled for the best part of the last two months having been refreshed by intermittent, yet copious showers. The latest monthly bulletin of the death-rate in the several cantons—that is, for the month of May—is before me. The return, resolved into the proportion between births and deaths in the chief towns of the Confederation, gives for the city and suburb of Geneva (78,777 inhabitants) 161 deaths (28 of which were those of persons imported from other localities) against 167 during the month of April; for Lausanne (63 623 inhabitants) 114 deaths; for Neuchâtel (16 772 inhabitants) 42; for Fribourg (12,567 inhabitants) 42; and for Carouge (5616 inhabitants) 14. The number of births was—in Geneva, 133; in Lausanne, 89; in Neuchâtel, 44;

in Fribourg, 34; and in Carouge, 11. In the fifteen principal life-centres of Switzerland (aggregate population 524,251) there were in May last 1266 births, not counting 49 stillbirths and 1056 deaths; whilst of these, 71 births, 2 stillbirths and 171 deaths occurred in persons coming from other localities. The rate of mortality, calculated for the year, according to the deaths during the month of May, is 23·7 per 1000 (37·7 at Lausanne and 24·1 at Geneva); whilst the birth-rate has risen to 28·4 per 1000. Infectious diseases number 82 victims, as against 87 for the preceding month of April and 141 if the deaths induced by infantile diarrhœa be added. Measles, scarlet fever, diphtheria, croup and pertussis figure with 87 deaths, against 72 in April and to the same causes 7 deaths were due in Geneva and 17 in Lausanne. Acute affections of the respiratory organs are responsible for 111 deaths as against 131 in April, and phthisis pulmonalis for 138, as against 163. Deaths by violence were 41 in number, 20 of these being due to accident, 19 being suicides and 2 homicides. From the above statistics it is fair to conclude that as the warmer and presumably more settled weather of August and of the first half of September advances the risks from lung disease will mark a still further diminution than that recorded in May, which, as has been seen, contrasts favourably with April, whilst the mortality from infantile maladies, which is at its height in the closing weeks of spring, is not likely to assume any recrudescence in the late summer or early autumn. As to cholera, Switzerland has hitherto shown an enviable freedom from it as compared with other countries, Zurich being the town most heavily visited on the last occasion of its outbreak. For this reason, as already indicated, the German influx from the North Sea ports and that of the French from those of the Mediterranean may be expected to inundate the many mountain resorts as it did in 1891."

ZINC IN DRINKING-WATER.

INSTANCES of the solvent effect of certain water-supplies upon lead piping are well known, because, unfortunately, the contamination proceeding from this cause—notably in the cases of Sheffield, Leeds and other places—has led to serious and alarming issues. The contamination of drinking-water with zinc due to galvanised iron pipes is, however, not so widely known because water impregnated with zinc is decidedly less injurious in its action compared with lead, and also because galvanised iron piping is seldom used for the conveyance of drinking-water. Yet cases of zinc contamination from this cause have come under our notice. The water supplied to Cwmfelin, near Llanelly, for instance, was a few years ago carried for about half a mile through a galvanised iron pipe. The character of the water being suspected it was submitted to examination by ourselves, and the following results were obtained: Water from the spring—total solids, 10·8; chlorine, 1·47; ammonia, none; nitrogen as nitrate, 0·056 grain per gallon. Water from the pipe—total solids, 18·9; chlorine, 1·45; ammonia, 0·008; nitrogen as nitrate, none; and *zinc carbonate in solution in carbonic acid*, 6·41 grains per gallon. It will be seen that the spring water was very pure, and its solvent action upon zinc by water containing dissolved oxygen and free carbonic acid must have been considerable. The reduction of nitrates to ammonia by the action of the zinc was a noteworthy feature in the case. The water was characterised by a strong metallic taste. Similar examples are recorded in the Guy's Hospital Reports, third series, vol. xvii., p. 233, 1872, by Dr. Stevenson, who quotes also the opinion of several experts on the question of the injurious action of water that has been impregnated with zinc. Upon this question there appears to be a diversity of opinion, but the majority agree that injurious effects are likely to follow from the use of water so contaminated. In commenting upon the action of water upon lead, it is observed in the sixth report of the Rivers Pollution Commission, p. 226, that certain polluted shallow well waters, containing much dissolved oxygen and but little carbonic acid, possess the property of acting continuously both on bright and tarnished lead, and that when galvanised iron pipes are substituted the water is found to be impregnated with zinc instead of lead. Loch Katrine water, again, so remarkable for its purity, acts both on bright and tarnished lead and also attacks galvanised iron. Pure soft water would appear therefore to dissolve zinc in a similar manner to lead, but on boiling water impregnated with zinc, which it takes up in a less poisonous though greater quantity than lead, a white precipitate of basic carbonate is obtained. In view of these observations water intended for drinking purposes, and especially soft water, should not be distributed in galvanised iron pipes, and there is some ground for apprehending that its storage in tanks of this material would not improbably be attended with some risk.

DEATHS UNDER ANÆSTHETICS.

THE study of THE LANCET Commission on Anæsthetics confirms the fact that accidents under nitrous oxide gas are extremely rare. The cases of reputed deaths under it are as a rule merely deaths associated with, but not due to, this anæsthetic; and a recent fatality at Batley which we are about to narrate is no exception to this statement. It appears that a collier, aged thirty-nine, went to a local dentist with the view of having several teeth removed. An examination of his mouth revealed the fact that, owing to an accident in childhood, a portion of the jaw was lost, and considerable deformity, with lateral displacement of the chin, had resulted. This caused a difficulty in opening the mouth, and had led to narrowing of the oral orifice and stenosis of the air ways. It was given in evidence by a brother that the deceased had difficulty in breathing and in his sleep snored heavily, occasionally awakening as though choking. Although a post-mortem examination was made we find no mention of the anatomical state of the jaws, mouth and naso-pharynx. The lungs and heart are carefully described, but the real cause of danger is not mentioned; probably this is the reporter's omission, and not that of the gentleman responsible for the necropsy. The facts of the case seem to have been as follows: The patient insisted upon an anæsthetic, although the dentist appears to have urged him to submit to the extraction without it. The dentist in the presence of his assistants gave the patient nitrous oxide gas from an iron bottle. The same bottle had been used without ill effects for other patients. The respiration became abnormal and laboured almost at once and the inhalation was stopped whilst the dentist attempted, but vainly, to pull the tongue forward; he then introduced the handles of his forceps to give access of air to the larynx, but death appeared to take place almost immediately. The patient was lifted from the dental chair and placed upon the floor for the performance of artificial respiration and at this time the radial pulse was palpable. The necropsy already referred to points simply to death from asphyxia, and there can be little or no doubt that the patient died from this cause. Whether a prompt resort to laryngotomy would have saved the patient's life we cannot say, as the evidence before us may be incomplete; but as far as it goes it certainly seems that this line of treatment would have proved successful. Whether dentists who administer anæsthetics are prepared to perform laryngotomy we do not know; but unless they are so prepared and are in a position to justify this surgical proceeding on their part, we think they certainly are not free from liability to adverse criticism if they administer an anæsthetic to a patient, especially if difficulties are apprehended, without the presence of a surgeon prepared to undertake the treatment of any emergency which may arise. We have further to record a death under chloroform,

the following particulars of which have been supplied to us. A boy of eleven described as healthy save for the presence of post-nasal adenoid growths and enlargement of the tonsils, was placed under chloroform at the London Throat Hospital on the 12th inst. The anæsthetic was carefully administered by the house surgeon, who has had considerable experience of these cases; it was given from a Skinner's flannel cap mask and the child went under its influence in about five minutes without any particular symptoms arising. When the skin was insensitive to pinching the operation was rapidly performed by one of the surgeons. The hæmorrhage had practically ceased and the boy was placed in the semi-recumbent position and was about to be left, when he suddenly became pale and ceased breathing, although the pulse continued and the colour remained good for some seconds. Inversion, artificial respiration, stimulation of the præcordium with wet towels, and other resuscitative measures were persevered in for an hour and three-quarters, but without result. One reason for continuing these measures for so long was, it is said, that the patient's colour seemed to give hope that the circulation had not entirely failed. Nothing was clearer in the case than the fact that respiration continued after the heart failed—for how long it is almost impossible to say, as the movements of artificial respiration, which were never relaxed from the commencement of bad symptoms, obscured the natural respiratory movements; however, about two minutes probably after the commencement of artificial respiration the patient inspired naturally, whilst endeavours were made to keep accurate time with these natural movements, unfortunately without any good permanent result. At the post-mortem examination the heart was found to be empty and perfectly healthy; the lungs were congested—a fact probably explained by the long-continued artificial respiration. There was no obstruction in the larynx, trachea or main bronchial tubes. All the other organs were healthy.

THE TREATMENT OF SCIATICA.

OF Dr. Weir Mitchell it can be said that he has tilled in many parts of the field of medical science and therapeutic art and never without leaving the ground richer and more prolific for his efforts. In a recent clinical lecture, reported in the *Philadelphia Medical News*, he discourses on the subject of sciatica and after lightly touching on the varieties of the disease and their special characteristics he gives, what cannot fail to be useful to many, a description of his usual method of treating this so often troublesome and persistent condition. The usual search is made for disturbed organs or altered secretions, and any obvious constitutional disorder is provided for; and rest in bed, constant and prolonged, till recovery of the patients is assured, is enjoined. Dry cups are recommended and they should be used early and thoroughly—even a double or triple row all around and over the sciatic notch and down the leg to the ankle. As many as three dozen cups should be applied and they should be left on for half an hour. This should be repeated the next day and again two days later, and this may be sufficient. If for any reason this plan is not admissible, a mustard poultice is recommended three inches wide and extending from the sciatic notch to the ankle. Dr. Weir Mitchell believes that the old plan of counter-irritation—viz., extensive in amount and moderate in degree—is better than limited and severe attacks on the skin. So far the treatment described is that of an acute case and a first attack. If it still persists Dr. Mitchell adopts the measures which he finds useful in chronic cases. In these it is sometimes necessary to use narcotics. Cocaine is recommended in doses of from a quarter to half of a grain under the skin. If morphia is given it should be in only one dose at about eight or nine o'clock P.M. But these means may be unsuccessful, and it was the acute suffering brought on by movement in such a case which suggested to Dr. Weir Mitchell the use of the measures which he now employs—viz., a flannel bandage enveloping the whole of the affected limb and a splint of such a fashion and form as to keep the hip and knee immovable. The bandage used is of pure flannel, it is applied twice a day, the leg being kept slightly bent at the knee and extended at the thigh, and in this position it is secured to a splint which passes from the axilla to the ankle. Usually three weeks of uninterrupted treatment are necessary. Finally the splint is taken off during the day and retained at night and thus is gradually dispensed with. In a similar manner the bandage is left off. During this treatment cod-liver oil and iron and nutritious food are given and great care should be exercised to keep the bowels open. Sometimes there may be left one or more points of persistent pain and these are best treated by counter-irritation, either by means of a small blister or the Paquelin cautery. After the pain is relieved gentle massage may be applied to the affected limb and it is of no little importance that at first the sitting posture should be avoided, and the rule laid down here is that the patient should not be allowed to sit at all during the first week. Such is the latest method which the skill and experience of Dr. Weir Mitchell have suggested for the treatment of an obstinate and distressing malady. It is to be hoped that it will be as useful in other hands as it evidently has been in his, for to the paper are added the accounts of several cases in which success followed the treatment described.

THE WORTHING EPIDEMIC.

A DISTINCT abatement has taken place in the extent of the epidemic of enteric fever at Worthing, but this has not been arrived at until the disease has already reached very exceptional proportions. The attacks in the first outburst did not fall far short of 300; those which have been reported during the recrudescence have already exceeded 600 making a total of 926 in the two outbreaks; and we fear that 1000 attacks may hardly cover the total of this serious occurrence. The total deaths have been 93 up to the present date. The original cause was believed to have been the fouling of a new adit by men in the employ of the water-works, but matters are coming to light which, whilst not excluding the fouling in question as a cause, point to another possible source of mischief. It now appears that in constructing the recent works a sudden rush of water was experienced which, it is feared, may come from a superficial source; and when it is remembered that the site of the water-works is now pretty well surrounded by dwellings with their drains and sewers, it will easily be seen that water contained in a possibly polluted surface soil can hardly make its way into the public wells without running risk of carrying with it whatever pollution may have arisen from leaky drains &c. There was unfortunately a simultaneity between the access of this water to the well and the origin of the epidemic, which gives force to the view now provisionally entertained; and it is by no means impossible that the abatement of the epidemic was due to the fact that so long as people were frightened they refrained from drinking the water or they only drank it after it had been boiled, and that when it was announced on the authority of bacteriological research that the water was "very pure," the inhabitants gradually resumed its use and so the recrudescence on a wide scale was brought about. For the moment the town council of Worthing are doing everything they can to stay the spread of the epidemic. They have consulted the Local Government Board officials at frequent intervals, Dr. Theodore Thomson of the medical department being on the spot; they have provided nurses, and a fresh water-supply by arrangement with West Worthing, and so convinced do they seem as to the

danger attaching to their existing sources that they have taken preliminary steps to abandon the existing wells altogether and to provide the town with a totally different water service. They have also done what they can to stay the arrival of excursionists into the town. Mr. Mansergh, M.Inst.C.E., is, further, being consulted by them as to the adoption of a number of temporary measures of precaution pending the execution of the new works. In the meantime, a word of caution as to the interpretation of the present abatement seems called for. In some way or other, either the infection of enteric fever has clung to the waterworks during a long period, or that infection has recurring opportunities of getting access to the water. The history of the epidemic does not as yet enable us to judge which of these views is correct, because the first abatement was associated in point of time with a disuse of, or a boiling of, the water. And it may be that the present abatement has precisely the same explanation, and that the infection is as present now as it has been for several weeks past. Hence we would urge all who remain in Worthing, whether for reasons of duty or otherwise, not to be misled by a mere abatement in the number of fresh attacks; but to wait until it is clearly shown how the mischief arose and until the source of mischief has been dealt with. The case is an obscure one, its investigation may take time and even those who are most interested in the matter will do well not to hurry on the investigators in a work that may be easily marred unless due caution be exercised in excluding sources of error.

THE MEDICAL CURRICULUM IN FRANCE.

OUR neighbours across the Channel are, in the matter of professional education, encountering the difficulties out of which we ourselves are steadily, if slowly, working our way. The "Conseil Supérieur" of Public Instruction is at this moment engaged on a scheme for the reorganisation of medical studies which, if it should become law, will mark a signal advance in the qualifying curriculum of the French undergraduate, and, at the same time, possess a direct interest for the large number of foreigners who matriculate with a view to graduation in France. Four years is the minimum duration of medical study across the Channel, and of these the first is dedicated exclusively to science, physical and natural. To enrol himself in the medical course the student had formerly to prove his possession of two "bachelorships"—either that of "lettres et sciences" or that of "lettres et ès-sciences restreint." These diplomas, however, did not, in the eyes of the Medical Faculties, certify a sufficient acquaintance with the physical and natural sciences, so fifteen years ago they instituted a complementary system—they created, within their own sphere, chairs of physics, chemistry and natural history, and made the first year of the medical course consist of these subjects exclusively. This innovation had its drawbacks. For one thing it reduced the four years' professional curriculum to three—a distinctly retrograde step—whilst the physical and natural science, made obligatory in the first year, was rather a "prolongation de l'enseignement secondaire" than a course bearing properly on medical study. Under the system shortly to be proposed by the "Conseil Supérieur" this preparatory year of physical and natural science is no longer to come within the strictly medical curriculum, but to find its appropriate place in the scientific faculty. Before enrolling in the medical course the student, on his exit from the "lycée" and provided with the regular bachelorship, will have for one year to come under the "Faculty of Sciences," and there by a practical course qualify for a "certificat d'études physiques, chimiques et naturelles." Having obtained this "certificat," he will enter on medical study, which will therefore not fall below its minimum duration of four years, but, in point of fact, achieve a gain of one year over the system still in force. This, as we have said, is a step in the right direction. The only fear is that the preparatory course of one year in "physical, chemical and natural science" will be too elementary—too superficial. We gather this from the speech of the Minister of Public Instruction himself, who, addressing the "Conseil Supérieur," said: "The instruction in the physical and natural sciences which we ask you to organise in the 'Facultés des Sciences' has no similarity to that which qualifies for the diploma of licentiate or the degree of doctor in medicine. The instruction we want to establish must be, relatively, elementary." The innovation proposed, whilst it would add to the numbers attending the meagrely frequented class-rooms of the "Facultés des Sciences," would probably have the effect of lowering the standard of instruction given there. There is, on the other hand, this to be said—by the Faculties of Medicine being relieved of a preparatory, whilst non-medical, course the secondary schools which do not possess the rank of "facultiés" preserve their right of instruction in physical and natural science, and thus, by the presence at these schools—provincial schools, we mean, su h as Nantes, Angers and Marseilles—of the intending physician or surgeon who has yet to obtain from them the required physical and natural science, the medical wards and amphitheatres of Paris are so far disencumbered of the first year students who are apt to crowd them. These considerations, however, can at best be but speculative at this stage, and the lessons of time and practice must be left to do their work of making both preparatory and professional education more thorough—securing, that is to say, a sound initiation in the physical and natural sciences, and then guaranteeing for the student so equipped that undistracted and, as far as possible, that prolonged clinical instruction and experience in which even the best of theoretically trained graduates are so apt to be deficient. Medicine must, on the one side, keep in the closest touch with the daily advance of physics and chemistry with a view to biological qualification, and, on the other, with the not less frequently recurring improvements in clinical observation and method with a view to her efficiency in the province peculiarly her own—the hospital ward and the private bedside.

THE EARL'S-COURT EXHIBITIONS.

WE cannot but congratulate the inhabitants of London in general on the continued popularity of the exhibitions held each year at Earl's-court. It is no easy matter to find a new and a sufficient attraction each recurring summer. Yet only one of the various exhibitions held can be pronounced a failure. This was the Spanish Exhibition. The American Exhibition, with Buffalo Bill and the Wild West Show; the French Exhibition, with the Wild East Show; the Italian Exhibition, with a revival of the games of the Roman forum; the German Exhibition, with its military history of the German Empire, and, finally, the present wood, floral and water show have one and all been the source of much healthful recreation to the inhabitants of London. In each case the pleasure has been mainly enjoyed in the open air. The holiday has not been marred in its wholesome effects by the breathing of the vitiated air of ill-ventilated halls or theatres. The representations given have all told in the direction of physical exercise. The love of riding, of running, of swimming is encouraged by such exhibitions. These are all exercises that develop physical strength—the health, skill and courage of the individual. To-day the water show must tempt every spectator to become an efficient swimmer, and this is surely a most healthy and useful ambition. To swim well means a capacity of saving life; it also means exercise of a nature that helps to prolong life. Then in these open-air entertainments, where thousands can be present without overcrowding or other inconvenience,

the "classes"—too much divided in this country—mingle, and the rude, rough manners of the few are softened by the better deportment of the many. The Earl's-court Exhibition provides the pretext for enjoying in the open air, at the moderate cost of one shilling, the sweet scent of flowers and good music. This is a cheap healthy lounge and for an equally small sum Old Paris and the Bastille or the Water Show can be seen. There again, though under shelter, the spectator is still in the open air, and this is an advantage which, in the hot summer months, cannot be over-estimated. We should be sorry to hear that these Earl's-court Exhibitions were to be discontinued and hope that some happy idea may suggest itself for their maintenance.

PREVENTION OF CRUELTY TO ANIMALS.

THE sixty-ninth annual report of the Royal Society for the Prevention of Cruelty to Animals is before us. We gladly take occasion to commend this society to the help and sympathy of every benevolent person. In Her Majesty the Queen it has one of the truest and most practical supporters. It is not the least glory of her reign that it has seen a wonderful development in feeling and tenderness for the lower creatures and not a little of this is due to her personal interest in this society expressed in a memorable letter in the year 1874. The following sentence occurs in this letter: "In regard to the pursuit of science the Queen hopes that the entire advantage of those anæsthetic discoveries from which man has derived so much benefit himself may be fully extended to the lower animals." This is a sentiment in which the whole medical profession will concur. As representing that profession, we desire to express our high sense of the value of this society. No men more than medical men sympathise with suffering and none have a deeper satisfaction in the abatement of it and in the acute vigilance of this society in the detection and punishment of cruelty to the lower animals.

THE HOSPITAL CENSUS.

THE statistics contained in the second volume of the census report, which has just appeared, concerning the population of the various hospitals are very full of interest and suggestion. It is not a little striking to observe that of the total number of inmates of hospitals not many more than two-thirds are patients, the remaining one-third being resident officials, so that, taking the administrative departments altogether, it appears to be one person's work to look after two patients. The exact figures are: total patients, 27,579; total residents, 40,341, giving 12,762 as the number of persons who may be classed as resident officials, or 31½ per cent. of the entire number. This aggregate will, of course, include a certain proportion of dependents, visitors and other non-effective residents; but these will not probably be considerable enough to affect the broad result, and would no doubt be fully compensated for if account were taken of all the officials who assist in carrying on the work of the institutions but sleep outside, so that on the occasion of the census they would be enumerated elsewhere. There is, indeed, no reason, we think, to doubt that the figure above given represents the normal efficiency of hospital work with rough correctness. It certainly sheds a strong light upon its exacting and multifarious character, for when it is borne in mind that this figure expresses, not the amount of attention bestowed upon dangerous or difficult or otherwise selected cases, but upon the average patient, including in the aggregate convalescents and simple cases of disease; moreover, that it shows what can be done when the sick are collected together in wards and dealt with in large bodies, so as to economise the labour of attendants, it will be felt that we have here a new and most graphic view of the havoc wrought by disease. The figure is interesting in another way, for it may be used in the examination of the returns made by various institutions; and so far as the great hospitals are concerned it will be found to apply without any marked or inexplicable deviations from the common standard. Deviations of course there are, but bearing in mind that in some cases the nursing staff is housed to a greater or less extent in separate dwellings we are disposed to wonder at the uniformity found in fact to prevail through the figures. Yet there are some characteristic differences to be marked. For example, the proportion of resident officials is distinctly lower in the provincial than in the metropolitan hospitals. Thus, taking the metropolis alone, the resident officers are in the proportion of 32½ per cent. to the total number of inmates, whereas in the provincial institutions the resident staff number in corresponding manner rather fewer than 31½ per cent. of the whole number of inmates. Nor is this confined to any one part of the country. Liverpool and Swansea, Leeds and Hull, Birmingham and Nottingham, Exeter and Plymouth, all contribute instances of hospitals of considerable size which, by their proportion between patients and resident officers, tend to bring down the provincial average. The reason of this difference, which is sufficiently marked to challenge notice, must be sought elsewhere and is no doubt worthy of investigation. It may be that London hospitals are, as a whole, amongst the best equipped and most efficiently administered in the country; but if efficient working implies a lavish expenditure of labour, efficient organisation should bring about a high efficiency and economy of labour, so that this explanation, though naturally suggesting itself at the first blush, is not quite obviously satisfactory, and the subject is one upon which more remains to be said.

REFLEX EPILEPSY.

SOME years ago it was the prevailing idea that epilepsy depended in a large number of cases directly on some peripheral irritation. Later under the influence of the teachings of Hughlings Jackson and the experiments of Ferrier and others the tendency was developed to minimise the peripheral irritation and to regard the brain disturbance as the primary cause of convulsions. Now there seems to be the natural rebound to a view that both factors are operative, and in some quarters the peripheral irritation is regarded as the *fons et origo*. In a recent number of the *Journal of Nervous and Mental Diseases* Dr. William C. Krauss contributes an ably written article on reflex disturbances in the causation of epilepsy, the tendency of which is, while recognising clearly an underlying cerebral instability, to attach much weight and importance to various kinds of peripheral irritations as at least the exciting causes of epilepsy. As we have said, the underlying instability of the nervous centres is recognised in the paper, but it is difficult to reconcile this with such statements as "ingrown toe-nails, corns and calluses are not infrequently the cause of epilepsy, scars about the limbs, disorders of the genitalia, incomplete descent of one or both testes are some of the causes in youth." By all means let the peripheral sources of irritation be carefully investigated in every case of epilepsy or other disorder and let all such irritation be removed, as a step towards the proper treatment of the condition; but at the same time let us guard ourselves against any such statements as the foregoing, for if we accept them we place ourselves in a hopeless position. Ingrown toe-nails are, we venture to think, rather commoner than epilepsy and many a boy with a tight prepuce has never had a fit at all, and, on the other hand, everyone who has had much to do with epilepsy knows well that in spite of the most diligent search, in the vast majority of cases, no source of peripheral irritation is to be found. American physicians, or a section of them, seem to be inclined to over-estimate the effect of peripheral disturbances as actual causes of epilepsy.

It is not so very long since we heard a good deal about the cure of epilepsy by correcting errors of refraction, but now most physicians are satisfied that however much such correction may relieve the epileptic, it very rarely, if ever, is sufficient to abolish his fits. Probably the same is true of all peripheral disturbances. The sooner it is clearly recognised that epilepsy depends upon some morbid condition of the nervous centres the more likely are therapeutic measures to be crowned with that success which is at once the aim of the physician and the desire of the patients.

ACTION AGAINST A DENTIST FOR MALPRAXIS.

ACTIONS brought against dentists to recover damages for alleged avoidable injury during an operation are by no means uncommon and are exceedingly difficult to adjudicate upon. Such a one occurred recently at Manchester, the plaintiff alleging that by the negligence of the defendant's operator he suffered from hæmorrhage to such an extent that he had to be attended by a medical man. Another dentist subsequently extracted a piece of the fang which had been left in the gum. It was contended for the defendant that the bleeding was due to a predisposition on the part of the plaintiff to hæmorrhage. The plaintiff was awarded £15 damages. From the meagre report in our hands it is impossible to give any definite opinion on this particular case, but the operation evidently was not a success as one fang was left, though this might have been the fault of the patient. Hæmorrhage is the most frequent of all the casualties, and they are many, that may arise from tooth extraction, and cases occur from time to time even in the hands of the most skilful operators. Many cases have been recorded where death has occurred from loss of blood after the extraction of a tooth in those suffering from hæmophilia, and in some where there has been no history of this condition. In cases of hæmophilia certain precautions should always be taken—but how often is the operator informed of the fact?—such as the internal administration of gallic acid for a few weeks prior to the operation as suggested by Mr. Smith Turner, and the plugging of the socket after the extraction.

THE TESTICLES IN AGED PERSONS.

IN an interesting paper on the structural changes observed in the testicles of aged persons, which appears in the recently issued number of the *Journal of Anatomy and Physiology*, Dr. Joseph Griffiths of Cambridge gives the following results of his observations: In the testicles of the aged two distinct stages may be recognised in the process of involution or decay to which they are liable. Either of these may be apparent although the organs may present their usual appearance and nearly natural size. In the one the epithelium of the seminal tubules and also that of the tubules of the globus major of the epididymis undergoes more or less complete fatty degeneration and partly disappears; the tunica propria of the tubules of the testicle becomes somewhat thickened, but the intervening inter-tubular connective tissue remains practically unaltered. In the epididymis the muscular wall of the tubule is replaced by fibrous connective tissue, and the inter-tubular connective tissue is increased, dense and fibrous. In the other, or second, stage the seminal tubules are much reduced in size, the epithelium having in great part disappeared, leaving only, in many instances, a single layer of long, tapering, columnar cells, lining and filling the tubule, the central spermatozoa-producing cells having completely disappeared, whilst the tunica propria is greatly thickened from proliferation of its own connective-tissue cells and the formation of a fibrous matrix. The inter-tubular connective tissue is in this second stage relatively increased, owing perhaps to the diminution in the size of the seminal tubules, but it still remains of loose texture and contains, as in the normal condition, many connective-tissue cells. The epididymis shows no other changes than those incident to the first stage. Besides the above there is a third change, which is more partial and much resembles the result of the inflammatory process. It is usually observed in the small or shrunken testicles of old men and affects both organs. In the altered patches the seminal tubules, in the majority of instances, are completely transformed into fibrous rods or cords; but in some there still remain in the central fissure that represents the original lumen traces of epithelial cells derived from the degenerated cells of the seminal tubules. The inter-tubular connective tissue is increased in amount and converted into a dense fibrous variety.

THE HEALTH OF ITALY.

YEAR by year the statistical reports issued by the Italian Government are gaining in method, in fulness and in scientific precision, and those for which the department of Public Health is responsible are a conspicuous illustration in point. One drawback, however, is common to the whole series, and that is the lateness of their appearance. For instance, we are not allowed to know the mortality returns of the first half of 1892 till July of 1893. Still, compared with the old perfunctory system, now happily superseded, the superior accuracy and comprehensiveness of the new are worth waiting for, with which consolation we must be content and hope for the yet further improvement by which the subject-matter dealt with shall savour less of "ancient history." From a return which we owe to the Public Health Department we can now give the number of deaths from infectious diseases in each province of the kingdom from Jan. 1st to June 30th, 1892. These, all told, were 426,604—far too high a figure for a population of 30,200,000. This is a notable rise on the number of deaths for the corresponding six months of 1891, which was 402,479. Special causes, however, are cited to explain this difference between the two semesters—a difference which, as will be seen from the subjoined table, was most marked in January and February of each year:—

Months.	Number of deaths. 1891.	1892.
January	79 942	91,689
February...	73 548	82,208
March	73,136	79,314
April	66 742	61,254
May	55 592	57,381
June	54,040	54,758

The principal causes of the severe mortality registered in the first months of 1892 were the diffusion and the gravity of the influenza epidemic. In fact, owing to this malady there died in the first semester of 1892 no fewer than 19,508 individuals, whilst in the corresponding period of 1891 the deaths due to the same cause were only 118. On the other hand, there was a great diminution of the mortality from other infectious maladies in the first half of 1892 as compared with that of 1891. We cannot transcribe the parallel columns given in the official return before us for the two years, but we may select a few prominent heads, as, for instance, that of small-pox, which for the first half of 1892 numbered 659 victims, as against 1360 for the corresponding half of 1891. Measles in the former period caused 6458 deaths and in the latter 11,430; erysipelas 1756 in the one and 2110 in the other; miliary fever 93, as against 144, and typhoid fever 5105, as against 6792. The deduction from these figures is the eminently satisfactory one that in preventable zymotic disease the effect of improved hygiene and sanitary precautions is steadily making itself felt. Malaria, in spite of all that has been done for its etiology, its pathognomonic signs (particularly in the circulation) and its treatment, remains a pretty "constant quantity" so far as its victims are concerned—the deaths from it in the first half of 1891 having

been 4832, as against 4973 in the corresponding half of 1892. Thanks to the Istituto Anti-rabbico of Milan, where the Pasteur method is practised with a care and skill hardly inferior, if at all, to that of the parent institution, deaths from hydrophobia are year by year diminishing in the Italian peninsula—23 being the number of victims from the fell disease in the first semester of 1892 and 49 in the corresponding six months of 1891. These results are still more apparent on a comparison of the last five years with each other—that is, from 1887 to 1892—and clearly prove that, thanks to her independence and unity, Italy has now fallen into line with other civilised nations and is beginning to enjoy the advantages of more enlightened institutions, especially in the all-important department of the *salus populi*.

THE EPIDEMIOLOGICAL SOCIETY OF LONDON.

A DINNER of this society was held on Friday, July 14th, at Limmer's Hotel, the President, Dr. Payne, being in the chair, supported by Sir George Buchanan, Sir William Moore, Sir Benjamin Richardson, Dr. Dickson and numerous other members of the society; whilst Dr. Wilks, Sir Dyce Duckworth and Dr. Pye-Smith were amongst the guests. After the usual loyal and patriotic toasts, that of "The Public Health Service," including the Medical Department of the Local Government Board and the County and Urban Medical Officers of Health, was proposed by Sir Benjamin Richardson and responded to by Dr. Franklin Parsons, Mr. Shirley Murphy and Dr. Newsholme. Sir George Buchanan proposed "The Visitors." In introducing the toast of the evening, "The Epidemiological Society," the President gave a short sketch of the history of the society and the rise of the English School of Epidemiology. Beginning with the work of John Caius on the sweating sickness this school had been developed by the labours of Morton, Willis and Sydenham in the seventeenth century, and of other great observers in the last and the present century. The origin of the modern science of medical statistics was traced to the London Bills of Mortality, compiled by the humble labours of old women and the parish clerks. The Epidemiological Society itself, founded in 1850, had in early days done good service by pressing upon the Government the importance of sanitary reform in relation to the prevention of cholera, to vaccination and to other subjects, and amongst minor matters first started the scheme of a nomenclature of diseases, since carried out by the Royal College of Physicians. It had attracted contributions from all parts of the world and received cordial recognition from continental authorities, whilst now, after forty-three years of work, its Transactions showed no falling off in interest or importance.

ATTACKS ON THE LONDON HOSPITAL.

IT is poor employment to make cheap newspaper attacks on the management of a hospital which works in the poorest part of London and under the strain of a constant and heavy disproportion between the number it has to cater for and the means supplied to it. We are not disposed to be blind apologists for any hospital, not even for this institution that is so handicapped in these hard times when criticism is more active than charity. Neither are we disposed to attach any importance to such attacks as those contained in the series of papers which have lately appeared in the *Pall Mall Gazette* headed, "The Truth about the London Hospital, by our Special Commissioner." It is for the authorities of the London Hospital to consider what kind of notice, if any, such attacks deserve. It seems to us that there should be some legal protection to hospitals as well as individuals from criticism so irresponsible and one sided. In the meantime we advise all really charitable friends of this great institution to disregard such detraction. We are quite prepared to believe that nurses at the London Hospital have some grievances. By all means let them be temperately and reasonably stated and redressed; but the articles on which we are commenting do not seem to be reasonable and temperate statements and we have to set against them the fact that according to the finding of the council of the Hospital Sunday Fund the London Hospital is well administered and that on this very question of nursing the following judgment is delivered by the Lords' Committee in their responsible report: "The figures given show that while the strength of the nursing staff on duty by day at one of the great hospitals (the London being taken as an example) is fully sufficient for the needs of the sick, by night the strength is somewhat short, the deficiency being, however, such as would be remedied by a trifling increase in the number of nurses on the establishment. The demand for an increase in the nursing staff is, in fact, made in the interest rather of the nurses themselves, in order to secure shorter hours of duty and longer holidays, than of the patients. There was little evidence that the patients suffered from insufficient nursing, while on the contrary abundant testimony was forthcoming of the admirable care and attention bestowed on them and of the spirit of self-sacrificing zeal which animated the nurses."

A NUISANCE CAUSED BY A DUST DESTRUCTOR

A CORRESPONDENT has directed our attention to the existence of a nuisance arising from the shaft of a dust and refuse destructor situated near the end of Waterloo Bridge on the Surrey side. When the wind is in a certain quarter he complains that the smoke passes over a certain street and deposits a copious quantity of refuse, a specimen of which has been submitted to us. It appears to consist of ordinary house refuse and dust, which it is the duty of the dust collector to take away. Doubtless it is carried mechanically up the shaft into the air by the draught induced by the heat of the furnace below; but surely some provision could be made to obviate at least the mechanical emanation of particles into the air in this objectionable manner. A wire caging over the top of the shaft, so as to screen the smoke, as it were, might answer. Our correspondent suggests the adoption of long underground flues. We commend this grievance to the notice of the authorities, who will doubtless take the necessary remedial measures when they learn of the existing evil.

THE ABUSE OF PISTOLS.

WE have over and over again called attention in the columns of THE LANCET to the utterly inefficient regulations which at present prevail with regard to the sale and use of revolvers and other forms of the small firearms known as "pistols." The loss of life and injury that have been caused in consequence of their almost unrestricted sale and employment have been very great and, we feel inclined to add, very preventable. We are glad therefore to see that the Home Secretary has introduced a Bill under which the following new regulations are proposed:—No boy or girl under eighteen may carry a pistol, and no persons may sell pistols to them. Pistols may only be sold by gunsmiths or pawnbrokers, who must obtain a 1*l.* licence from the local authority. Pistols sold must bear a distinctive mark, and particulars of the sale must be entered in a register. They may only be sold to holders of licences, and the Inland Revenue Board may authorise licensed vendors of pistols to sell gun or game licences. No persons may carry loaded pistols in a place of public resort without special permission. Penalties under the Act may be recovered on the information of a police constable. Persons released from penal servitude are under a special restriction; wholesale dealers are exempted from the Act; and importers of pistols have to furnish particulars to the officers of Customs.

These regulations embrace suggestions which have been often advanced in THE LANCET, the most important being, perhaps, the prohibition of the carrying of pistols by persons under the age of eighteen years and the requirement that all pistols must bear a distinctive mark. It is satisfactory also to note that particulars of the sale must be entered in a register. We trust that the Bill may soon become law; it is a small measure, but one calculated to prevent loss of life and to save not only the possible victims of accidents due to the careless use of these dangerous weapons, but also their friends and those dependent on them, much needless suffering.

THE DIFFUSION OF SMALL-POX.

THE number of towns and districts from which news of small-pox reaches us is distinctly diminishing. Fresh attacks are known to have occurred last week as follows: West Ham, 11; Birmingham, 7; Salford, 8; Manchester, 3; Oldham, 2; Heston and Isleworth, 2; Halifax, 5; Bradford, 23; Wakefield, 7; Sheffield, 2; Hull, 7; and Mexborough, 3. Isolated cases have also occurred in a number of other places, such as Liverpool, Warrington, Chadderton &c. The number of cases under isolation in the hospital ships and in the convalescent buildings belonging to the Metropolitan Asylums Board was 287 on the 24th instant, the steady diminution being thus maintained.

THE CONDITION OF THE THAMES.

IT is reported that the efforts of the London County Council to improve the condition of the water in the lower reaches of the Thames begin to show signs of satisfactory results. In support of this contention the late vice-chairman of the main drainage committee of the Council for the past two years, now chairman of the committee, had the river trawled a few days ago with a small net at Erith. The net when drawn up was found to contain specimens of whitebait, sturgeon (*sic*), jellyfish and shrimps—a result which was accepted as a gratifying token of the advance made in securing a better state of things in the river. So far this practical test would appear to be satisfactory, but in the absence of information as to the condition of the tide, weather &c. it cannot be accepted as conclusive. When the tide is close upon flood it is well known that the water in the lower reaches of the Thames consists practically of sea water and at this time it would not be surprising if jellyfish, whitebait and shrimps (but hardly sturgeon) were captured. Indeed, not many years ago sea-water fish were to be found as far up as London-bridge on the occasion of an exceptionally high tide. There is some reason for thinking, however, that the condition of the lower reaches of the Thames is improving, and this alone is a fact for which to be thankful; but we fear it will be some time before we may hope to see our tables supplied with those piscatorial delicacies which the Thames at one time furnished.

THE INTERNATIONAL MEDICAL CONGRESS.

OUR own correspondent, dating from Rome, writes: "The organising committee has resolved to admit to the various sections of the Congress all students of medicine who, as on-lookers merely, will *ipso facto* be exempted from the purchase of tickets. With this object the student must sign a schedule attached to the invitation circulars distributed amongst the universities of the Italian kingdom, and having signed it, transmit it to the 'Secreteria Generale' at Genoa, from which office he will receive a 'tessera di riconoscimento' (a ticket of recognition) which will suffice to procure him the reduction of fares by sea and land. Another mode of obtaining the 'tessera' or ticket in question is to direct a formal request to the 'Secreteria Generale' in Genoa. This resolution of the organising committee ought to extend, and probably will extend, to other students of medicine besides those of Italy. In addition to the already announced representatives of foreign Powers or seats of learning I may add that the Bavarian Government has nominated as its delegates the Geheimrath Dr. Kerechensteiner, Superior Medical Councillor of Public Health at the Ministry of the Interior; Dr. von Ziemssen, Professor of Special Pathology and Therapeutics in the University of Munich; and his Excellency the Chevalier Dr. von Lotzbeck, General on the Medical Staff of the Bavarian Army. The Government of the Sublime Porte has added to its representatives at the Congress the Adjutant-Major Dr. Essad Bey. At Vienna the Physiological Club has nominated Drs. Sigismund Fuchs and Alois Kreidl to represent it; whilst the Austrian Society of Hygiene, which has also its seat at Vienna, will send as its delegate Dr. Friedrich R. V. Stach."

ANOTHER SLEEPING GIRL.

WE observe in the *Echo* of the 17th inst. that a case similar to that of the Irish girl referred to in a recent number of THE LANCET has appeared in Prussia. The patient is a girl of twenty, and it is stated that she has been asleep for six days and that it is impossible to awake her except for a few minutes at a time and then only by means of external irritation. In its essential characters the case is, no doubt, similar to that to which we have referred, the trance being probably cataleptic in character. The pathology of the condition is very mysterious, but there is little doubt that sympathetic attention tends to perpetuate the symptoms. The patients are always very neurotic, and there seems to be a national, or rather a racial idiosyncrasy, for it seems clear that amongst Slavs and Celts the condition is much more common than amongst other races. The Salpétrière, amongst our French neighbours, displays such and similar conditions in abundance, and amongst ourselves the "Welsh fasting girl" has become almost proverbial. The patient to whom we referred recently was Irish, but presumably of the same race. We do not often hear of such cases in the northern part of the kingdom, and it is possible that the reason for this is to be found in the, outwardly at least, unsympathetic attitude of the people towards all emotional manifestations.

A DARNING NEEDLE IN THE ABDOMEN.

IN the last number of the *Journal of Mental Science* Dr. Braine-Hartnell relates a curious case in which a needle was for a year in the abdominal cavity. The patient was suffering from acute melancholia and on admission had some scratches about the abdomen and on the left elbow, the traces of self-inflicted injuries. She stated that a few days before she had run a needle into the abdomen, but no trace or sign of its presence could be found. Ten days later a superficial abscess was formed in the middle abdominal line and an ounce and a half of pus evacuated. Exploration with the finger failed to reveal any foreign body. The mental condition remained very disturbed and she would not leave the dressings alone. The wound, however, closed in a few weeks, but a month later a similar swelling was found higher up. From this also pus was duly evacuated and again the cavity was searched, but without result. This also healed, but she continued to complain of vague abdominal pains and she remained melancholic and suicidal. She gained flesh, however, and looked better. Six months later she developed pneumonia, which never cleared up satisfactorily. The temperature remained high and albumen appeared in the urine. She began to lose flesh, crepitations were audible all over the lungs and she had pain in the right flank. Breathing became worse and she died, the pulse having become very rapid and the temperature elevated. At the necropsy the organs were found to be tuberculous. There was a large abscess extending above to the

diaphragm and below to the kidney. It also extended to the right free border of the liver and a little over its upper surface. On washing away the pus on the right edge of the liver a darning needle about two and a-half inches long was found partially imbedded in the liver substance with the point downwards and in the long axis of the body.

DEATH OF DR. JOHN RAE, F.R.S.

WE regret to have to record the death of Dr. John Rae, LL.D.Edin., F.R.S. and L.R.C.S.Edin. A native of the Orkneys, his diploma of the Royal College of Surgeons, Edinburgh, dates back as far as 1833, and his life has been highly honourable and useful, chiefly in the direction of Arctic work and exploration. It was a common thing for young surgeons in his day to take charge of Greenland-going ships. Before he was twenty years old he was appointed as surgeon to the Hudson's Bay Company's ship which annually visited Moose Factory, on the shores of Hudson's Bay, and it was in this office that he acquired that interest in Arctic regions which was to make him one of the most effective of Arctic explorers. He visited the Arctic regions three times in search of the crews of the *Erebus* and *Terror* under Sir John Franklin, and it was he who in his last journey was able to collect and bring back articles which left no doubt that the worst had befallen Sir John Franklin and his brave comrades. For these services he received £10,000—the reward which had been offered by the British Government—and in 1852 the Gold Medal of the Royal Geographical Society. Dr. Rae began his medical studies when he was only sixteen. Though his medical fame is lost in his larger achievements we still claim the honour of his name in a profession which teaches its followers to "endure hardness" and has sent forth its members alike to the trials of Africa as in the case of Rae's distinguished countryman Mungo Park and the austerities of the Polar regions as in the case of Dr. Rae himself, who is estimated by *The Times* to have added 1500 or 1800 miles to the map of explored land in those fateful parts. We cannot help feeling that if he had been a rich banker or brewer, or the head of some State department, but otherwise unknown to fame, he would probably have received titular distinction, and it is to be regretted that a man with such physical and mental energy, who had done such splendid service, should not have received what he had so richly earned.

THE MEDICAL PRACTITIONERS' ASSOCIATION.

SUCH is the new name adopted, after some discussion, at the annual meeting of the General Practitioners' Society held on Thursday, July 20th, at the Holborn Restaurant, under the presidency of Dr. J. W. J. Oswald, the retiring president. Dr. Alderson was elected President for the coming year. The report for the past year gave satisfaction to the members who now number about 300. Various subjects were discussed, including the proposal to register midwives, the meeting declaring strongly in favour of obstetric nurses as distinguished from midwives. Another matter which gave rise to some discussion was the change in the title of the Association, as mentioned above. A proportion of the meeting were well satisfied with the old title as defining the chief object of the Society—the promotion of the interests of the general practitioner and the discouragement of all low methods of practice. But the majority approved the change, which, if it somewhat does away with the exclusive character of the Association, enlarges its scope and recognises the "oneness" of the profession in all its sections. An important paragraph in the report dealt with the question of medical aid associations, and expressed regret that the Medical Council had not adopted the recommendations of its own committee. A feature of the meeting was the address of the retiring President, Dr. Oswald who struck a high and genial note in indicating the work and purpose of the Association. After the business of the meeting the members of the Association dined together and entertained various guests, including Dr. Bridgwater, Dr. Glover (one of the direct representatives of the profession on the General Medical Council), Mr. Keetley and others. Various toasts were proposed and responded to, which, with music interposed, brought the proceedings to a pleasant conclusion.

KING'S COLLEGE, LONDON.

AT a meeting of the Council, held on the 26th inst., the following appointments were made: Sir Joseph Lister, F.R.C.S., Consulting Surgeon to King's College Hospital; Mr. A. Boyce Barrow, M.B., F.R.C.S., Full Surgeon in Charge of Beds; Mr. G. L. Cheatle, F.R.C.S., and Mr. P. T. Beale, F.R.C.S., Assistant Surgeons; Mr. J. F. W. Silk, M.D.Lond., Anæsthetist and Instructor in Anæsthetics; and Mr. George Rowell, F.R.C.S., Assistant Anæsthetist.

ACUTE YELLOW ATROPHY OF THE LIVER.

SEVERAL attempts have been made to assign a micro-organism as the cause of acute yellow atrophy of the liver; for a considerable period the results were always declared to be negative, but recently Dr. Kanot read a paper before the Medical Society of London, stating that in three cases of this disease—two of which proved fatal—he was able to isolate from the blood and liver the bacillus coli communis. Dr. M. H. Vincent (*Gazette Médicale de Paris*) also obtained a similar result in a case which he investigated and was able to isolate the organism not only from the blood of the liver but also from the bile, all the other viscera and the central nervous system. The patient had died forty-eight hours after the onset of symptoms; the case was a typical one of acute yellow atrophy of the liver and after death the usual pathological conditions were found. Microscopic examination of the liver demonstrated the presence in large numbers of the bacillus coli communis, and pure cultures were obtained without difficulty. The bacillus presented certain characteristics not usually ascribed to it. It was actively mobile. The cultures on gelatine (tube-cultures and plate-cultures) were neither opaque nor confluent, but, on the contrary, were translucent and discrete. The streak yielded by potato cultivations was light yellow in colour and projected very slightly above the cultivating surface. Lactic acid fermentation could only be obtained in a very small degree and in bouillon; in indol reaction was developed.

FOREIGN UNIVERSITY INTELLIGENCE.

Dorpat.—Dr. Arthur von Oettingen, Professor of Physiology, has resigned his chair after a service of thirty years on the teaching staff of the university. He intends to continue his scientific work in Germany. Dr. Georg Dragendorff, who is the senior member of the professorial body, is also about to resign the chair of Pharmacy which he has held since 1864.

Innsbrück.—Dr. E. Ehrendorfer, Professor of Midwifery, has been elected Rector for the ensuing year.

Paris.—Dr. Hayem has resigned the Chair of Therapeutics and been appointed to that of Clinical Medicine, vacant by the death of Professor Peter.

Tomsk.—Dr. Jerofeieff has been promoted to the Ordinary Professorship of Ophthalmology and Dr. Anfimoff to that of Gynæcology.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Nils Gustaf Kjellberg, Professor of Psychiatry in the Univer-

sity of Upsala at the age of sixty-six. He was considered the most eminent of Swedish alienist physicians, and it was through him that a rational mode of caring for lunatics was introduced into the asylums. He was honorary President for Swe len of the Section of Psychiatry at the Copenhagen International Medical Congress in 1884. Dr. Amédée Poctevin, Professor of Descriptive Anatomy in Montreal, aged thirty-three. — Dr. Justus Carrière, Extraordinary Professor of Zoology in the University of Strasburg, and a grandson of Liebig, of diphtheria, in his fortieth year.—Professor Benjamin Luzzato, Director of the Medical Clinic, Palermo. He had just finished an important paper on the Circulation.

SEVERAL changes have recently taken place in the teaching staff at St. Bartholomew's Hospital. Dr. Norman Moore has succeeded Dr. Gee as Joint Lecturer on Medicine, and the Lectureship on Pathology, recently held by Dr. Norman Moore, has been entrusted to Dr. Kanthack. Dr. Herringham has been appointed Medical Registrar and Dr. Tooth succeeds Dr. Ormerod as Demonstrator of Morbid Anatomy. In the more scientific subjects changes have also taken place. Mr. F. D. Chattaway, B.A. Oxon., D.Sc. Lond., Ph.D. Munich, has been appointed Demonstrator of Chemistry, and Mr. Alfred Howard has been elected Assistant Demonstrator of Chemistry. Mr. J. S. Edkins, M.A., M.B. Cantab, George Henry Lewes student and late Demonstrator of Physiology at Owens College, Manchester, has been appointed Demonstrator of Physiology.

AN old Act, incorporated in the Public Health (London) Act, requires every sanitary authority to appoint one or more medical officers of health for their district. The Treasurers and masters of the sanitary districts of the Inner Temple and the Middle Temple have appointed Dr. F. J. Waldo, the medical officer of health for the parish of St. George-the-Martyr, Southwark, medical officer of health for their districts. He has received the permission of the Local Government Board and the Vestry of St. George-the-Martyr to retain his present appointment in Southwark in addition to those above-mentioned.

AN addition to Clubland is about be made by the formation of a club for the association in membership of Fellows of the various Royal and learned societies. Membership will be limited exclusively to presidents, members of council, fellows and members of the learned societies at home and abroad, as well as academicians and associates of the Royal Academies and professors of universities. Colonel W. P. Hodnett, late 2nd Dorset (54th) Regiment, is the hon. secretary.

THE Home Secretary has sent a letter to Sir Edmund Lechmere testifying to the excellent work done by the St. John Ambulance Brigade in the streets on the occasion of the Royal Marriage, and desiring him to convey to the members of the brigade the grateful acknowledgment of the police authorities and himself for such services. The force employed consisted of 200 ambulance officers and men, 10 surgeons and 30 nursing sisters, and 1544 cases were relieved.

MR. RICHARD DAVY having resigned his position as one of the surgeons to the Westminster Hospital has been elected a consulting surgeon. Mr. Davy was appointed surgical registrar in 1869, assistant surgeon in 1871 and full surgeon in 1873.

THE Royal Commission on Vaccination held a sitting at its offices in Great George-street, Westminster, on July 26th. Dr. B. A. Whitelegge of Wakefield gave evidence showing the favourable results of vaccination. The Commission adjourned over the Long Vacation.

IT is understood that Lord Brassey has been offered and has accepted the Chairmanship of the Royal Commission on the Opium Traffic.

THE London Counties Medical Protection Society have, we understand, been duly authorised by the Society of Apothecaries to take proceedings against Mr. Alabone in accordance with the suggestions of the Judge in the case of Alabone v. Morton.

PROFESSOR A. FRAENKEL, Director of the Urban Hospital, Berlin, has resigned the editorship of the *Centralblatt für Klinische Medicin*. He is succeeded by Professor Unverricht, Magdeburg.

THE LANCET
Special Analytical Sanitary Commission
ON
THE CHARACTER AND QUALITY OF THE ICE-SUPPLY OF LONDON.

AMONGST the new industries that have come into existence during the last decade not the least important is that of the artificial production of ice. Not only has an increase in the output of ice been demanded by certain manufacturing processes—to wit, the brewing of beer, the refining of paraffin, the preparation of pure chemical products and other installations—but what concerns us most in the present inquiry is that ice is also extensively resorted to for the cooling and preservation of articles of food and for mixing with a great number of beverages in which it is melted and actually consumed. The quantity of ice used in this manner has increased enormously during late years, the consumption reaching its maximum in the months of June, July and August. This being so, the quality and character of the ice commonly supplied for the uses just mentioned are matters of extreme and vital importance. Natural ice is plentifully supplied to this country from the immense ice fields of Norway and other countries, and its conveyance to English ports forms no small industry in the shipping world. In spite, moreover, of the invention and introduction of powerful refrigerating machinery for the manufacture of ice, the importation of natural ice still continues. Thus, of the six samples procured for the present inquiry, which, as will be hereafter seen, were fairly taken to represent the ice-supply of the metropolis, five were ascertained to be natural ice imported from Norway and only one had been produced artificially. Whether the general substitution of artificial ice for natural ice would effect any change for the better in the quality of the supply remains to be seen, but it has been recorded that natural ice is often contaminated with certain impurities and it has been frequently stated to be plentifully stored with bacteria. We are naturally led to expect, therefore, that the substitution of artificial ice would give greater security to the community against any danger from this source; but disquieting rumours have from time to time been raised as to the origin and source of the water used in the refrigerating process. We have, therefore, been prompted to institute a keen and searching inquiry into this subject with the view of setting at rest the question whether there is any foundation for supposing that the ice of London as generally supplied, whether natural or artificial, is not what it ought to be, or, in other words, is fit or unfit for human consumption. The inquiry is divided into two sections. The first section relates to the chemical analysis of the water resulting from melting the ice and to the indications as to purity thereby afforded, and the second section to the results of a bacteriological examination. Before proceeding to detail the results furnished by both sets of experiments a brief outline of the methods employed for the production of ice artificially will be of interest.

It is well known that heat is absorbed by two processes—firstly, by change of the condition of aggregation and, secondly, by expansion of volume, so that cold may be produced in three ways: (1) By liquefaction of a solid by means of a liquid

(solution of salts in water—e.g., nitrate or sulpho-cyanide of ammonium or chloride of calcium) or of another solid (ice and salt)—that is, by means of freezing mixtures; (2) by converting a liquid body (ether or ammonia, sulphurous acid or carbonic acid) into a gaseous condition; and (3) by the expansion of compressed air. Processes 2 and 3 are employed for the production of ice on a large scale, but the conversion of liquid carbonic acid and sulphurous acid into vapour gives the most satisfactory results. The compression of carbonic acid or a mixture of carbonic acid and sulphurous acid is effected by means of powerful steam force-pumps. During the compressing process heat is, of course, produced and provision for its removal is accordingly made by means of water-jackets. In the case of carbonic or sulphurous acid liquefaction of the gas is the result, and the liquid so obtained, on being allowed to evaporate (to resume its original physical state), takes up the heat that was lost in the compressing operation and produces great cold. In practice this operation takes place in a spiral condenser or worm, between the turns of which iron cells containing pure water are suspended, or the worm may pass through a saturated saline solution, chloride of calcium or brine, which do not freeze in spite of the low temperature to which they are reduced. The brine solution is available for use as a refrigerating medium either by circulating through pipes, as in cooling the cellars or storehouses of a brewery, or by immersing articles placed in a suitable receptacle in the cold saline fluid. The carbonic acid and sulphurous acid, being restored by the evaporation to gas, are returned to the compression pumps again, and so the process is continuous. Air does not liquefy at the greatest pressure attainable by ordinary force pumps, it is simply compressed, cooled and then allowed to resume its original volume, in which operation heat is absorbed and cold is produced. The process is therefore the same in substance as with carbonic acid or sulphurous acid, but the degree of cold attained is, as might be expected, decidedly less.

In order that the ice obtained for the purposes of the present inquiry should be representative of the ice actually supplied to the public for consumption and not merely for the wholesale external cooling of foods or beverages, care was taken to ascertain from the vendors that the samples obtained were chips of the block actually provided for the cooling of drinks by the simple expedient of placing the ice in the liquid itself. We therefore leave out of consideration all question as to the purity of the ice that is used for cooling purposes—such, for example, as for bottled wines or other articles of consumption with which the ice does not come in actual contact. In short the inquiry deals with the character of ice the water resulting from the melting of which is consumed. In this connexion it may be observed that ice is frequently employed to cool the beverage or draught of the invalid sick and that the sucking of ice is often recommended in certain ailments. The importance, therefore, of the supply of a pure commodity becomes doubly emphasised when these facts are taken into consideration.

Of the six samples procured three were obtained from wholesale depôts and three from restaurants. Two of the wholesale depôts were situated in the City area and the remaining one in the West Central district. The restaurants or eating-houses where the other three samples were procured were situated, one in the City, and the other two between the City and Charing-cross. At the latter places we were assured that the ice was the best that could be bought and fit for all purposes, whilst at the depôts we were informed that the ice obtained was identical with that supplied to the principal restaurants of London.

CHEMICAL REPORT.

The chemical analysis of ice simply resolves itself into an examination of the water obtained on melting the solid ice. Every precaution was taken to secure the ice against contamination during the collection of the samples and their conveyance to THE LANCET laboratory. Arrived there the samples were broken into small pieces and thoroughly rinsed with pure distilled water. This done, the pieces were allowed to melt in capacious funnels, by means of which the resulting water was collected in bottles specially cleaned for the purpose. The usual chemical examination, as in the case of potable water, was then made. The results obtained may be recorded and described *seriatim*; the figures express throughout in grains per gallon the quantity of the constituents found:—

Sample 1.—This sample was purchased from a large ice company in the City, and was stated to be artificially produced. To the naked eye it was somewhat opaque in consequence of variation in the structure of the crystal and of the presence of small air cavities, but no objectionable-looking suspended impurity was observed. Analysis gave the following results:—

Free ammonia	0·0196	grains per gallon
Albuminoid ammonia	0·0084	,, ,,
Nitrogen in nitrates	0·0700	,, ,,
Total solids	9·80	,, ,,
,, hardness (permanent)	7·73	,, ,,
Chlorine in chlorides	1·75	,, ,,
Oxygen required to oxidise organic matter (three hours)	0·0455	,, ,,

The water obtained from the melting of this specimen contained a considerable sediment, which was perfectly white. Under the microscope it was seen to consist of perfectly regular crystals of chalk ($CaCO_3$), in proof of which it disappeared with effervescence of carbonic acid gas on adding acetic acid. This elimination of chalk in well-defined crystals is of peculiar interest since it has been observed that when water containing common salt is frozen a small fraction of the salt crystallises in cubes in the mass of ice. The same phenomenon would appear, therefore, to take place with carbonate of calcium that is dissolved in the carbonic acid of the water. The freezing process, in fact, removes the permanent hardness of the water just as boiling does. In the case of boiling, however, the carbonic acid is expelled and the chalk ($CaCO_3$) is precipitated. In the other case, that of freezing, it would appear that the chalk assumes a crystalline condition which would seem to prevent its re-solution in the water, although it may contain carbonic acid, unless it is expelled during refrigeration. But the $CaCO_3$ obtained on melting ice for the production of which hard water was used is quite distinct from the $CaCO_3$ obtained on boiling similarly hard water. The microscope also showed patches of iron oxide (Fe_2O_3). The free ammonia in this specimen is, comparatively speaking, considerable, whilst the ammonia liberated by alkaline permanganate is slightly above the recognised standard of purity of potable waters. These results do not constitute *per se* sufficient evidence to condemn the water or the ice on the score of organic impurity, especially when regard is paid to the remaining factors of the analysis. It is well known that water of good quality is obtained from the artesian wells of London at very great depths, but which, nevertheless, yields a notable amount of free ammonia on distillation. It is this fact which prompts us to surmise that the water used for the production of this ice is probably obtained from a London artesian well.

Sample 2.—This was obtained from a firm of large restaurant proprietors in the City; it consisted of natural ice from Norway. The sample was perfectly clear and yielded on melting bright and clear water which contained a slight sediment consisting of oxide of iron and carbonate of lime. The following results were yielded on analysis:—

Free ammonia	Traces.	
Albuminoid ammonia	,,	
Nitrogen in nitrates	0·042	grain per gallon.
Total solids	1·40	,, ,,
Total hardness (permanent)	1·03	,, ,,
Chlorine in chlorides	0·20	,, ,,
Oxygen required to oxidise organic matter	0·028	,, ,,

This ice was of remarkable purity *from a chemical point of view* and gave, on melting, water of organic quality equal to distilled water. The total solids amounted to a trifle over one grain per gallon, the chlorine to only one-fifth of a grain per gallon, whilst the free ammonia, albuminoid ammonia and oxygen required were so low as to indicate irreproachable quality as regards organic matter.

Sample 3.—This was a sample of Norwegian ice also from a restaurant in the City. It looked quite clear and on melting gave water which was clear and bright and absolutely without sediment:—

Free ammonia	0·0070	grain per gallon.
Albuminoid ammonia	Trace.	
Nitrogen in nitrates	0·014	,, ,,
Total solids	0·700	,, ,,
Total hardness (permanent)	0·50	,, ,,
Chlorine in chlorides	0·14	,, ,,
Oxygen required to oxidise organic matter	0·28	,, ,,

Like the last, this sample was probably derived from water nearly as *chemically* pure as distilled water, and it was practically free from solid matter—only 0·7 grain, half a grain

of which was due to sulphate of lime ($CaSO_4$) and one-tenth of a grain to chlorine in chlorides. Though the figure for ammonia was somewhat higher, yet the oxygen required, the nitrogen in nitrates and the albuminoid ammonia would tend to allay any suspicion as to the probability of contamination having taken place. The specimen was as *chemically* pure as could possibly be expected had it been made from distilled water.

Sample 4.—This sample (Norwegian) was purchased from the depôt of a company in the West-end. This ice, we were informed, is largely used in the restaurants of the neighbourhood. It was a clear specimen and afforded water equally clear and bright and without sediment :—

Free ammonia	0·0056	grain per gallon	
Albuminoid	Nil.		
Nitrogen in nitrates...	0·028	,,	,,
Total solids	0·70	,,	,,
Total hardness (permanent) ...	0·50	,,	,,
Chlorine in chlorides	0·14	,,	,,
Oxygen required to oxidise organic matter	0·024	,,	,,

The *chemical* analysis, as will be seen, is very satisfactory. There is not the least indication of organic impurity and the ice was doubtless produced from water nearly equal to distilled water in regard to excellence of *chemical* quality.

Sample 5.—This was a Norwegian sample purchased in the West-end. It was quite bright and no suspended particles could be traced in the crystal. The water derived from it contained a very slight sediment, but was otherwise clear and bright. On analysis the following figures were obtained :—

Free ammonia	0·0070	grain per gallon	
Albuminoid	0·0028	,,	,,
Nitrogen in nitrates...	0·0560	,,	,,
Total solids	1·4	,,	,,
Total hardness	1·0	,,	,,
Chlorine in chlorides	0·21	,,	,,
Oxygen required to oxidise organic matter	0·021	,,	,,

The composition of the water yielded by this ice closely resembled that of Sample 2; it was probably derived from the same source. It was slightly harder than the previous sample and contained more solid matter, but there is not the least *chemical* evidence to show that the water from which this ice was derived was not pure.

Sample 6.—This sample was obtained at a restaurant in the West Central district and as far as could be ascertained it represented the Norwegian supply. It was quite clear and yielded a bright liquid on melting, which contained a very slight sediment. On analysis it yielded the following results :—

Free ammonia	0·0084	grains per gallon	
Albuminoid	0·0028	,,	,,
Nitrogen in nitrates	0·042	,,	,,
Total solids	1·40	,,	,,
Total hardness	1·10	,,	,,
Chlorine in chlorides	0·21	,,	,,
Oxygen required to oxidise organic matter	0·028	,,	,,

It will be seen at once on comparison with the previous analyses that this ice yielded results substantially identical with those of Samples 3 and 5. The free ammonia, however, is slightly higher, but in view of the indications of the remaining factors—more particularly the oxygen absorbed, the chlorine, and the albuminoid ammonia—no importance can be attached to this minute difference. There is little doubt that the water used in producing this ice was free from organic impurity and approached distilled water in chemical character.

General Conclusions on the Quality of the Ice from a Chemical Point of View.

Chemical analysis was at least valuable in deciding one important point in regard to the quality of the samples obtained in the present investigation, and that is that, with the exception of one sample, all were derived from water of a chemical purity approaching that of distilled water. This alone would be a fact, in the light of a purely chemical examination, upon which we could congratulate the public as well as those who are responsible for the supply of ice in London intended for human consumption. But a mere chemical analysis does not afford *per se* conclusive and decided evidence as to the fitness of a water for drinking purposes. A chemical examination may furnish evidence of impurity sufficient to condemn the water in question, but alone it is powerless to decide whether the water may be drunk *with absolute safety;* a water therefore the purity of which is doubted should pass the requirements both of a chemical and bacteriological examination before it can be regarded as fit for human consumption. This is illustrated in an interesting manner in the present inquiry, where some of the samples proved satisfactory *chemically* but unsatisfactory *bacteriologically.* In other words, whilst chemical analysis would have freed them from reproach, bacteriological analysis pronounced on the same samples a condemnatory verdict.

The chemical composition of the sample (No. 1), which is the only specimen of artificial ice, is of interest as indicating the origin of the water used in its production. It was probably derived from an artesian well sunk beneath the London clay; at least its composition leads to this assumption. The results of its chemical analysis, especially in regard to nitrogen constituents, were not entirely satisfactory, but in the absence of information as to its history no definite opinion can be given on this point; suffice it to say, however, that bacteriological examination gave a very satisfactory account of this water. The observation already recorded that the process of refrigeration renders the lime ($CaCO_3$) crystalline in the ice, so that as such it is thrown out of solution when the ice is melted, is of interest and, so far as we know, is an observation placed on record for the first time. A similar observation, but in regard to salt, was, however, made some time ago by Professor Buchanan,[1] who found that sea-water ice contains common salt, not as brine mechanically enclosed in the ice, but in the solid form either as a single crystalline substance or as a mixture of ice and salt.

Bacteriological Report.

Each portion was carefully washed with sterilised warm water and then placed in a sterilised glass vessel carefully protected from the air. After standing for a minute or two it was again washed with sterilised water which was poured off and the ice was then allowed to melt until there was a sufficient quantity of water for the purposes of our experiments. A series of gelatine plate cultures, each containing from ·066 to 1 c.c., was made from each sample, five plates being made in each series. As the weather was extremely warm during the time that these plates were made two from each series were kept in an ice safe in which the temperature was maintained at about 42° F.; the other plates were kept in the usual manner at the temperature of the room. In the one case, where the number of colonies was apparently higher in the plates kept in the ice safe than in those kept at the temperature of the room, the discrepancy is probably to be accounted for by the fact that the liquefying organisms did not spread over the surface so rapidly and thus did not encroach on other colonies and a more accurate enumeration could thus be made.

Table of Results.

Ice.	Plates kept in ice safe. Number of colonies per c.c.	Plates kept at the temperature of the room. Number of colonies per c.c.	Number of species.	——	Percentage of liquefying colonies.
1	0	1-6	1	Non-liquefying: rods.	—
2	400-500	500	6	Liquefying: rods, 2 species; non-liquefying: rods, 3 species; cocci, 1 species.	5
3	600-700	500-600	6	Liquefying: rods, 2 species; cocci, 1 species; non-liquefying: rods, 3 species.	35
4	40	70	3	Liquefying: rods, 1 species; non-liquefying: rods, 1 species; cocci, 1 species.	5
5	26	35	2	Liquefying: rods, 1 species; non-liquefying: rods, 1 species.	50
6	40	50	3	Liquefying: rods, 1 species; non-liquefying: rods, 2 species.	3

[1] Proceedings of the Royal Society, xxii., 431.

GENERAL CONCLUSIONS ON THE QUALITY OF THE ICE FROM A BACTERIOLOGICAL POINT OF VIEW.

In making deductions from a bacteriological analysis of ice-water we must bear in mind that we cannot compare directly the results obtained with those obtained from an ordinary sample of water. We judge of the bacteriological purity of a water by *(a)* the number of organisms that it contains and *(b)* the variety of species present. From these data we are able to gather whether the water has recently come into relation with suspicious surroundings. Inasmuch, however, as not only the number of organisms but even the number of species in water is greatly diminished in the process of freezing, we should require much less evidence in this respect of the probable contamination in the case of ice. Judging the specimens of ice above described by a standard based on the above considerations we should regard No. 1 as a very good sample of pure ice, Nos. 2 and 3 as bad, and Nos. 4, 5 and 6 as of very fair quality.

The outcome of the whole inquiry is as follows:

1. By far the greater proportion of ice supplied in London is natural (generally Norwegian). Of the specimens procured only one had been produced artificially, and this specimen gave indifferent results on chemical analysis, but results of an eminently satisfactory kind in the light of bacteriological inquiry, practically no development of colonies of organisms taking place on culture.

2. Two out of five specimens of ice imported into this country from Norway, whilst yielding a satisfactory chemical analysis, were decidedly bad according to bacteriological examination, the number of colonies of organisms counted on culture varying from 400 to 700 per cubic centimetre of the melted ice.

3. Three out of five specimens of imported ice, though furnishing no condemnatory evidence on chemical examination, yielded bacteriological results such as might under certain circumstances give rise to suspicion, though they may be regarded as of fairly good quality.

In the light of these results it is evident that when ice is intended for human consumption preference should be given to that produced by artificial means; but the water used for this purpose may not be satisfactory, and we would therefore point out the desirability of using only the condensed product of steam (distilled water) for this purpose—a product, be it remarked, that must be free from disease-producing organisms. Natural ice as it is imported, though giving satisfactory results on chemical analysis, is not, in the majority of cases, entirely satisfactory from a bacteriological point of view; but it may be pointed out that a loophole of escape is afforded us by taking advantage of those chemical and physical phenomena in which change of state is concerned in producing extreme cold: we refer to the production of ice artificially, and, bearing in mind the fact that ice is so frequently used in the sick room and for table purposes, we strongly urge that it would be well if the means of obtaining a supply which we have indicated above—viz., the employment of *freshly*-distilled or sterilised water—could be generally adopted.

THE NON-TRANSMISSION OF SMALL-POX BY VACCINE LYMPH.

BY S. MANNINGTON CAFFYN, L.R.C.P. EDIN., M.R.C.S. ENG.,
LATE GOVERNMENT MEDICAL OFFICER FOR NEW SOUTH WALES.

THERE is no argument that the anti-vaccination enthusiast finds more useful in his contest with the obvious than his assertion that it is possible to transmit disease tendencies and hereditary taint through the medium of lymph; and it has occurred to me that a record of an experience that helps to place any such possibility beyond the region of doubt will not be an absolute waste of time.

In the year 1881 I, then in practice at Wollongong, the third seaport of New South Wales, had business that necessitated my running down to Sydney. Business over, I made for the Australian Club in search of lunch and old friends. The first man to welcome me was Dr. Alleyne, who had been for forty years—i.e., since its birth—senior Government medical officer for the colony and had become quite a national institution. Dr. Alleyne was a giant of the old order, eighty years of age, 6 ft. 4 in. in height and as straight as a ram-rod. Greetings over, he removed his hat with a carefulness that did not surprise me, for I knew it to be the receptacle of Government despatches, urgent telegrams, news of ships waiting in the harbour for his sanction to come up and letters marked "urgent," and most of these were unopened. The bottom of that hat was never seen for the simple reason that the first or second letter opened would summon him to some important engagement for the preceding day. In reply to my inquiry as to how life was using him he pointed to his hat and gave a deep grunt of despair, and I, walking to the table, took up and, at his request, opened the first letter that presented itself. It was marked "very important," twice underlined, and it was important to this extent, that the contents cost Dr. Alleyne his life, altered the whole course of mine, upset the business of the colony as much as a civil war could have done and, lastly, resulted in the expenditure of £270,000. And yet the letter was a very brief one. It simply announced the fact that a certain medical man believed that he had discovered amongst his patients a case of confluent small-pox and requested the Government medical officer to see it with him as early as possible. The effect of this letter upon Dr. Alleyne was past describing, and to me, just from London where small-pox was a matter of common occurrence, inexplicable. He raved, stamped the floor and expressed his emotions forcibly. As the weeks flew past us with their ever-increasing rush of work, as public excitement rose to fever heat, and as street after street became deserted because a report was abroad that some child had a pimple on its face, it began to dawn upon me what small-pox meant to this unvaccinated community; but it was not until I wandered back alone from my old friend's funeral that I quite understood all that that letter meant to him. But to resume my narrative. At the urgent request of Dr. Alleyne I saw the case for him. The consultation could not be truthfully spoken of as at the "bedside," for the gentleman under whose care the patient was inspected him through a large lens used for the purpose of examining photographs and exposed one eye only round the corner of the door to the risk of infection. It was confluent small-pox and thenceforth I had charge of the epidemic with orders to stamp it out at any cost. It would be impossible here to give any idea of the extreme measures resorted to. With the help of Dr Higham Hill I burnt down terraces, whitewashed the insides of pianos, carbolised tons of sugar, tea and grocery stores, and sent patients with temperatures of 104° across the harbour to the quarantine station in an open boat and in the middle of the night. It was at the quarantine station that the incident to which I am about to refer occurred. I had in my division of the ground some forty "suspects"—i.e., people who had been removed from infected houses, but not themselves suffering from the disease—and on the second day after my arrival the order came to vaccinate everybody under my care. New South Wales has no law enforcing vaccination, and the whole community may be divided into three classes: a few—very few—who submit to the operation from the belief in its efficacy, the rest being equally divided into two parts—first, the careless, who are unvaccinated because in the fearful hurry of colonial life there has been no time to bother about it, the rest being rampant anti-vaccinationists, cursed with the little knowledge that is the badge of all their tribe. Therefore, when the order was issued for all to be at my hut "by ten to-morrow" that I might vaccinate them, a thrill of excitement and a whisper of mutiny ran through the settlement. In obedience to the first instincts of a young democracy a public meeting was summoned and a shoemaker of great verbosity was invited to the chair; the meeting lasted the whole afternoon, and the direct outcome of it was that a resolution, formally drawn up and signed on behalf of the meeting by the chairman, was presented to me. Of the contents of this document I only remember that it entered very deeply into the scientific inaccuracy of the whole theory of vaccination and the gross interference with the liberty of the subject, and ended with a distinct refusal to submit to the operation. But a threat of prolonged detention and some tact brought about a compromise; after another meeting that lasted well into the night the people consented to be vaccinated if the lymph used was taken from a child who had been brought down the previous day—a fine, healthy child, with a clean skin and of good parentage. To this I consented and on the following day the terrible ordeal was gone through, I including myself amongst those operated upon. The next morning I was sent for very early to see the child from whom the lymph had been taken. I found her

suffering from most severe premonitory symptoms of small-pox; in two days she was covered with a confluent rash and in six days she was dead, and I, standing on the mound of sand that had been the shoemaker's "chair" at the anti-vaccination meeting, read the burial service over the body. The funeral over, I and my friend the shoemaker—friends now by force of a common danger—walked the beach and talked of death. I do not hesitate to say that I fully shared in the fear that saddened the whole community, as also in the common danger. If there was any truth whatever in this theory of transmission there was no escape for us; this child at the very time the lymph was taken from her was nearing the end of her period of incubation. If vaccine lymph could convey any other disease than vaccinia it ought to be variola, and therefore what hope had we? The most heartless of the readers of THE LANCET—if such a term will apply to any member of our profession—must admit that in a foreign land, away from all friends and home comforts and with a certainty (so I construed it) of a horrible death impending, my lot until the prescribed time had passed was anything but an enviable one. This sense of fear, which so overwhelmed us that the commonest greetings were neglected, was in a great measure due to the fact that we were the outcasts of a community and treated very much as were the lepers of old; we were without occupation and often without proper nourishment. On the day after the funeral I—finding that the wildest rumours were afloat and that wives and husbands were endeavouring to suck the poison from each other's arms, whilst some were openly avowing that suicide were better than this sleepless suspense—summoned the whole of them to my hut. I examined their arms and found that out of thirty-nine vaccinated only one had failed to take. It was that of a member of the same family to which the child belonged from whom we were all vaccinated; his marks on this (the fifth) day had almost disappeared, a fact that gave him infinite satisfaction. In the other thirty-eight cases the pustules were running the ordinary course with this marked exception that in every case the areola of inflammation was very exaggerated, as also was the swelling of the limb—so much so that many of us wore slings and all have the record of that horrible time written in tremendous cicatrices. The boy whose arm did not take caught small-pox some eight or ten days afterwards and (as was the case with all my patients who had been vaccinated in early youth as he had been) it ran a very mild and stereotyped course. As the number vaccinated from one arm is probably very unusual I would like to explain the system I followed throughout the epidemic—a system rendered necessary by the scarcity of lymph. I first very carefully punctured each pustule and then drew up the lymph as it escaped into a very small glass tube reduced to a flat narrow opening at the end, but dilated just above into a bulb to receive it. To this lymph I added one-third glycerine and one-third distilled water.

The moral of this record is, I think, too obvious to be dilated upon. Here was a child who caught small-pox and was vaccinated during the earlier stages of incubation, the disease being in no way influenced by it; here were also close upon forty people vaccinated from this child within twenty-four hours of the appearance of the eruption, only one of them failing to take, and he later had an attack of small-pox which ran the ordinary mild course seen in those well vaccinated in early life, whilst the others, but for the severity of the resultant pustule, might have been inoculated with the purest lymph ever used.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A VERY full and important meeting of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on July 19th at 5 P.M. Mr. George Pollock, the President, occupied the chair. The minutes of the last meeting were read and confirmed. The hon. sec. read the following announcement, which had been sent out on a postcard to the members of the Committee for the purpose of convening the meeting:

The Association of Fellows of the Royal College of Surgeons of England.
Important.
39, Welbeck-street, W., July 10th, 1893.

DEAR SIR,—A meeting of the Committee of the Association of Fellows of the Royal College of Surgeons of England will be held at 36, Grosvenor-street, W., on Wednesday, July 19th, at 5 P.M., for the purpose of discussing the future policy of the Association in view of the success of the candidates of the Association at the election on the 6th inst. To this meeting invitations are being issued to members of the Council of the College whose views are known to be favourable to the programme of reform adopted by the Association. It is earnestly hoped that you will be able to attend this combined meeting, and you are requested kindly to intimate your intention with respect thereto on the accompanying reply postcard at your earliest convenience.

Yours faithfully,
H. PERCY DUNN, Hon. Secretary.

Letters to a similar effect were addressed to several members of the council of the College. Favourable replies were received accepting the invitation of the Committee.

Letters of regret at their unavoidable absence were received from Mr. George Jackson (Plymouth), Mr. J. J. Purnell (Streatham), Mr. Bickersteth (Liverpool), Mr. Victor Horsley, Mr. William Square (Plymouth), Mr. G. F. Helm (Cornwall), Mr. Bruce Clarke and Mr. C. Steele (Bristol).

The following Fellows of the College having been duly proposed and seconded, were unanimously elected Members of the Association: Dr. Hugh Smith (Highgate), Dr. F. Churchill (London), Dr. Urban Pritchard (London), Dr. Ernest Arnold (Forest Hill), Mr. G. F. Blacker (London), Mr. Newland Pedley (London) and Dr. E. Deanesly (Wolverhampton).

The Hon. Secretary reported that he had not received any reply to his letter addressed to the President of the College conveying a copy of a resolution passed at the last annual meeting with reference to the meetings of Fellows. The following resolution, proposed by Mr. T. Holmes and seconded by Mr. Gant, was unanimously passed: "That Mr. Dunn be asked to write to the Secretary of the College and inquire whether the letter to the President of the College had reached its destination and would be laid before the council; and, should the reply be in the negative, to send a fresh letter in the same terms with a request that it should be read to the council." A cordial vote of congratulation on their success at the recent election was passed to Mr. Macnamara and Mr. Mayo Robson. Mr. Macnamara was also congratulated on having been appointed one of the vice-presidents of the College for the ensuing year, this being the first occasion on which a member of the Association had been elected to any office of the kind. A vote of thanks was unanimously passed to Mr. A. T. Norton for coming forward as a candidate at the recent election in the interest of the Association and a hope was expressed that he would stand again next year.

The future policy of the Association was then discussed and various members of the committee and the members of the council present expressed their views in connexion therewith. It was unanimously resolved that the council of the College should be approached for the purpose of obtaining a new Charter embodying the points of reform advocated by the Association. It was further resolved that a sub-committee should be appointed to consider and report upon the special points which should be dealt with in the Charter, the report to be presented to the committee in October next. This concluded the business of the meeting and the committee adjourned.

CHOLERA.

CHOLERA continues to prevail on the Continent and elsewhere, but there has happily not been much to chronicle this year indicative of its rapid spread or epidemic progress up to the present time. As we have already said, however, we are approaching the season when epidemic manifestations and outbreaks commonly occur, and it is consequently quite natural that sanitary authorities and public health bureaux should be in a state of what may be termed expectant attention. As regards the severe outbreak in Mecca, it appears there has been some delay and difficulty about the sea transport of the pilgrims back to their own countries. All have probably by this time left Mecca and, except those who have died or been detained at El-Tor, are already making or about to make the return journey. Nine cases of cholera and eight deaths occurred in the quarantine hospital at El-Tor from the 18th to the 20th inst., but the village in the vicinity was quite free from the disease, which is now nearly extinct at El-Tor also. Cholera is said to be prevalent in the region between the Yeman and the Hedjaz. According to a

letter from a correspondent in Egypt, dated the 15th inst., the disease has not spread in that country, and the epidemic shows no signs of advancing or establishing itself in that direction; as something beyond the simple introduction of the disease into a country is required to create or develop an epidemic, we may fairly hope that cholera will not prevail to any extent in Egypt this year. It is very hot there at the present time, and much inefficiency from sickness exists amongst the troops; but not any large amount of enteric fever and no cholera. It is said that in the event of cholera making its appearance the troops will evacuate the barracks as far as practicable and be encamped in suitable positions. Touching the outbreak at Mecca, it may be well to advert here to a few topographical and sanitary points. Mecca is the holy city of Islam and only the followers of the Prophet are allowed there. It lies in a valley with poor facilities for drainage. The number of pilgrims attending the Haj varies. In 1887, for instance, the number was unusually large, the gathering on Mount Arafat being computed by the local officials at 150,000 persons; the heat was unusually great and there were many deaths from sunstroke, but no outbreak of cholera or other epidemic disease; there had been no outbreak of cholera there since 1883, an immunity attributed to the care then taken with regard to the water-supply, the sanitary arrangements and the prompt burial of the carcases of slaughtered animals. When these Moslem pilgrimages take place from 50,000 to 100,000 visitors are added to the permanent population. The water-supply, brought into the town by a branch of the Zobeida aqueduct, is good and abundant. There are no sewers, surface drains, or house connexions, but the sewage and offal are thrown into the streets or put into pits. The city is consequently more or less foul at the best of times, but when the ordinary and fixed population is supplemented by enormous crowds of pilgrims there are, of course, much overcrowding, foul smells from decomposing offal and filth, and generally an absence of all surface cleanliness. But in addition to these unhygienic conditions the pilgrims drink from the holy well of Zemsen or Hagar's Well, the water of which is foul with sewage products, whilst that from the aqueduct is, as we have said, good and wholesome. As a matter of experience it has been shown that, with proper care and attention to cleanliness, water-supply and sanitary arrangements, these Moslem gatherings are not necessarily attended by outbreaks of cholera and epidemic disease, and it is really a matter of international concern that something should be done to prevent their recurrence.

The Greek Consul at Smyrna reports five cases of cholera in that city on the 24th inst., two of which were fatal.

From Russia we learn that several cases of cholera have been reported in St. Petersburg. According to the latest weekly returns the disease is increasing in many provinces, the highest numbers being in Podolia, 499 cases and 122 deaths; Orel, 148 cases and 52 deaths; Tula, 31 cases and 8 deaths; Kherson 22 cases and 11 deaths. Several cases of cholera continue to be reported also from the provinces of Kieff, Moscow, Viatka, Tchernogoff, Tobolsk and Tomsk. The Government have dispatched additional medical men to Podolia, Volhynia and Bessarabia for service during the epidemic. In Moscow during twenty-one days since the first reappearance of cholera in that city there have been 151 cases and 39 deaths, and the daily number of cases reported was increasing.

Germany, according to official accounts from Berlin, appears to be free from cholera. The *Kölnische Zeitung* denies that any outbreak has occurred on the Rhine. The military manœuvres in Alsace-Lorraine, which were countermanded last year in consequence of cholera, are, it is stated, to take place this year. The German Chancellor has addressed a circular to the Federal Governments of Germany drawing attention to the spread of cholera in France and its continuance in Russia, and to the possible danger of its spreading to Germany again this year. The regulations of the Cholera Commission are to be revised in accordance with the resolutions passed at the Dresden Conference and means will be taken for communicating to other governments the occurrence of any cases of cholera.

From Vienna we learn that a few fresh cases have been reported from the town of Szatmar, in Hungary. A death from cholera took place at Oldenburg on the 23rd inst., and several suspicious cases are stated to have appeared quite recently in the provinces.

Several cases of cholera are reported from Alessandria and different parts of Piedmont. Eighteen cases have already occurred at Alessandria, of which 13 have proved fatal.

Cholera appears to be prevalent in Senegal. According to telegraphic intelligence the disease has made its appearance in French Senegambia, causing 7 deaths at St. Louis on the 6th inst., and 12 deaths at the towns of Dagana and Podor, although these are distant from St. Louis 90 and 125 miles respectively, on the same day; 11 deaths are also reported as having occurred at St. Louis on the following day, the 7th inst.

As regards the prevalence of the disease in France we get very little official intelligence. The Government of that country is mainly occupied with other business at the present time, but there is every reason to believe that sporadic cases of cholera or choleraic disease manifest themselves from time to time in the South of France and at Toulon and Marseilles.

As regards our own country a case has occurred here and there on shipboard, but the local sanitary authorities have been on the alert and the disease, although introduced, has not hitherto succeeded in establishing itself in any of our ports or towns. The authorities of St. Bartholomew's Hospital have, it is stated, offered the use of thirty beds should accommodation be required for cholera patients.

The s.s. *Altmore* arrived at Marseilles on July 3rd and left on the 5th. A fireman was on shore there during the whole time of her stay. On the 7th (two days after leaving) he was attacked with very severe diarrhœa (twelve times in twelve hours), vomiting and cramps. He was collapsed. The captain gave him quinine and iron. On arrival at Gravesend on the 17th he was still feeble and looked ill, though nominally at work. The vessel was cleared by Her Majesty's Customs and the usual certificate given. Dr. Williams, on finding the case, had the patient at once removed to hospital. Dr. Collingridge had the ship thoroughly fumigated and disinfected with corrosive sublimate, all clothing being treated with superheated steam, water-tanks emptied and cleaned, bilges disinfected &c. The cholera bacillus was demonstrated in the patient's stools by Dr. Macfadyen at the College of State Medicine. The process employed by him will be described in detail later. The important point is that the bacillus is present and therefore the danger of spread of the disease in the case of a man who may fairly be called convalescent. It cannot be safe to allow any person to leave a hospital until some time—probably fourteen days—after convalescence. This obviously throws a heavy responsibility on medical officers of health.

OFFICIAL REPORT UPON THE CHOLERA EPIDEMIC IN THE RUSSIAN ARMY.

The report of the Army Medical Department upon the cholera epidemic of last year has just been published. The course of the epidemic in the army was to a great extent the same as that which it followed in the general population. The first case occurred on June 1st (Old Style)[1] in the Turkestan military district and the last on Dec. 24th in the Kieff district. The epidemic therefore lasted 207 days, in which period 4272 men were attacked with cholera and 1719 died. The figures show that the cholera was much more severe

[1] All the dates mentioned are Old Style dates.

in the south and east than in the north and west. Three military districts—those of Finland, Irkutsk and the Amur escaped altogether. The total percentage of deaths to cases was 40·24. The report describes in complete detail the course of the epidemic in each district, and in every town, village or camp where troops were to be found throughout the country. It may be noted that everywhere the disease was almost confined to the lower ranks of the army, the officers either escaping wholly or with insignificant losses; that in every instance the civil population in any given district was attacked before the troops; and that the percentage of persons attacked by cholera was in some cases greater, and in some less, in the army than in the civil population. The main reliance was placed upon a three days' land quarantine, established at every point along the frontier where communication was not wholly stopped. The period of detention was later (May 29th) increased to seven days. It cannot pass without comment that, although the earliest case of cholera on Russian soil had occurred on May 19th and that the clinical features and microscopic examination of the dejecta clearly established the nature of the disease, it was thought advisable to postpone an official announcement of the existence of cholera until a bacteriological examination of the dejecta had been made. The result of this examination, which confirmed the diagnosis, was not known until May 26th, exactly one week later than the occurrence of the first case. In the meantime the province of Transcaspia had been officially declared by telegram (May 24th) to be free from cholera. With regard to the value of the measures adopted to meet the epidemic the authorities of the Russian Army Medical Department are of opinion that quarantine is quite useless in checking the spread of cholera; that the "inspection points" on ways of communication are useful only in the sense that they provide early aid for persons actually ill, but that they in no way check the spread of infection; and that the concentration of large bodies of people proved particularly harmful in last year's epidemic. The measures of general sanitation, control of food-supply, treatment, disinfection &c., proved only of use where they were under the constant direction and control of a medical man. The formation[2] of "flying companies," consisting of two surgeons and a varying number of *feldschers* and sanitary officials, proved to be a measure of great value. Such companies, fully provided with means for treatment, disinfection and, to some extent, for improvement of the sanitation of the place they were sent to, could be despatched at short notice to any point where their services were most needed. Some remarks of the veteran Dr. Zdekauer, prefixed to the present report, will be read with interest by Englishmen. He insists, first, upon the extreme importance of sanitation, the value of which is more clearly seen in cholera than in any other disease—a fact clearly proved, he thinks, by the experience of England. He insists, secondly, upon the absolute necessity of regarding every case of diarrhœa during a cholera epidemic as a case of cholera. Finally, he insists upon the importance, when cholera appears amongst troops, of splitting up a large camp into several small groups of 100 or 120 men, which should separate in different directions and occupy ground at a considerable distance from each other. He quotes in this connexion the well-known experience of English troops in India, where the value of such a mode of proceeding has been proved on many occasions.

CHOLERA AND SANITATION AT BRUSSELS.

(FROM OUR SPECIAL CORRESPONDENT.)

Cholera and the Courts and Alleys of Brussels.—Compulsory Closing of Unhealthy Houses.—The Improved Condition of the Evicted Tenants.—The Sanitary Condition of Brussels.

THE facilities which the burgomaster of Brussels possesses in dealing with unwholesome property has on previous occasions been described in the columns of THE LANCET. Nevertheless in a large and overcrowded town there are always insanitary areas and dark corners, and there ever remains room for improvement. In Brussels there are still courts and alleys where poverty and want of space seem to invite the advent of epidemic disease. Much has been done to drain these places properly and to keep them clean, but in some instances there is really no effective remedy. They should be razed to the ground. A general sense of unwholesomeness does not, however, suffice to justify a wholesale destruction of private property. The unhealthy character of the property must be proved by some obvious fact. In this respect the cholera scare which prevailed in Brussels last autumn has been of considerable service. It will be remembered that, though there were a certain number of cases of cholera in the suburbs of Brussels, which are each under different communal administrations, there were only 17 deaths from cholera in Brussels itself. There were in all 35 cases which resulted in these 17 deaths, and of this number of cholera patients only seven drank the town water-supply. The remaining 28 patients had wells and there was evidence to show that they preferred drinking the well water though the town water was distributed in the neighbourhood and was available. The houses where the patients lived had trapped closets, which were kept fairly clean. Some of the cases occurred in the same streets which had suffered from cholera in 1866, but no case took place in exactly the same house. Though there were so few cases these nevertheless sufficed to cause the most energetic measures to be taken. All the courts and *impasses* of Brussels, and these number 220, were inspected by the medical and technical representatives of the municipality. The result was that a certain number of houses and of courts were condemned as unfit for habitation.

Some time elapsed before this sentence was pronounced; the burgomaster, feeling his responsibility, would not order property to be destroyed unless the necessity for such rigorous proceedings was clearly proved. The condemnation was therefore preceded by numerous careful investigations. When once, however, it was finally decided that a house was unfit for habitation the tenants were only allowed fifteen days to find other lodgings. As most of these tenants were very poor the town provided them with some money to facilitate their removal. This was purely voluntary on the part of the authorities, but it helped to prevent complaints. All the tenants expressed their satisfaction and declared themselves quite willing to leave their homes. This is a pleasing contrast to the scenes we have witnessed in London, where tenants cling to their wretched lodgings till their few sticks of furniture are taken by force and thrown into the street. The three blind alleys or courts named Van Soust, Horis, Des Prêtres and five houses in the Rue de Dieghem were condemned and closed. In fifteen other streets and courts the owners of various houses have been compelled to effect extensive improvements; and in the event of any resistance their premises would have been closed by the police, the doors nailed up and the houses declared unfit for habitation. To bring about these reforms, to detect and report on these unwholesome places, the sanitary authorities made during the year 1892 no less than 4508 visits of inspection. Nor has the work ceased with the removal of the occupiers of unwholesome houses. Care has been taken to watch the inhabitants when they left to see where they went and to ascertain whether the measures taken by the sanitary authority brought about an improvement in their condition.

The information thus collected shows that houses condemned in the Impasse des Prêtres were tenanted by thirty-eight families. Eighteen of these families secured rooms within 200 metres of their former home; seventeen more did not have to move further than 300 metres. Of the total number only two families had to go some distance. Thus it will be seen that the demolition of unwholesome houses in a poor quarter did not drive the inhabitants away to the suburbs of the town. Of the thirty-eight families four are just as badly housed now as they were before their removal. On the other hand, the vast majority—that is to say, thirty-four out of thirty-eight families—occupy better and larger rooms and healthier houses. Influenced by these ameliorated surroundings, they keep their rooms in better order. Thus there is a general improvement; but it has not been effected without a heavy cost. Three out of every four of the families who have been compelled to move now pay higher rents. The increase varies from 10 to 15 per cent., or from 2½*d.* to 5*d.* per room per week.

From the Courts Horis and Van Soust twenty-seven families had to move, and of these nineteen found new tenements within a distance of 300 metres, four within 500 metres, and three families left the town. Of the twenty-seven households only one has failed to improve its position; all the others are in very superior lodgings and houses, but three-quarters of them have to pay about 10 per cent. more rent.

[2] In accordance with Army Orders dated June 21st and 23th, 1892.

With regard to the five houses in the Rue Dieghem which have also been closed, this necessitated the removal of eleven families. None of them had to go far. Nine families are now lodged within 100 metres and the other two within 200 metres of their former homes. Ten of them are better lodged and one has failed to effect any improvement. Three households found better lodgings without having to pay more rent, six families had to pay 10 per cent. more rent.

Many persons in Brussels complained bitterly concerning the cholera scare that was raised last year. Strangers were so alarmed, it was stated, that they feared to come to Brussels. Hotel keepers, lodging-house keepers and tradesmen are said to have experienced heavy losses. This, it seems to me, is an exaggeration, for the hotels I visited were filled with tourists and visitors. Indeed, Brussels being one of the healthiest and—from a sanitary point of view—one of the best governed towns on the Continent of Europe, it was likely to be selected in preference by persons anxious to avoid the risks that arise from bad sanitation. The result has proved that such preference for Brussels is justified. According to the official report[1] there were in Belgium, from July 20th to Nov. 23rd last year, 1440 cases of cholera and 740 deaths. In the suburbs of Brussels, at Molenbeck St. Jean there were 52 deaths, at Anderlicht 16 deaths. Yet at Brussels, and in spite of the numerous travellers who arrived from infected districts, there were only 17 deaths. This speaks well for the town and for the sanitary authorities. Now that the tourist season is once more in full swing it is well to recall these facts. The above record of sanitary work will show how good a watch is being kept and that some of the worst and the most dangerous habitations of the city have been closed and their former inhabitants have found healthier dwellings. Altogether therefore the cholera scare has probably done more good than harm. As another indication of this fact I should mention that the municipality has purchased five carriages for the removal of patients suffering from infectious diseases. It may be remembered that, when writing about Brussels during the cholera epidemic, I protested that the ambulance service was not properly provided with carriages. The fear of cholera has caused this defect to be remedied. What is now wanted is more energy and more enterprise in effecting sanitary reform in the suburbs of Brussels. Here there is still much to be done. The water-supply is insufficient, the drainage bad, the overcrowding of dwellings too frequent. The local authorities who govern these different suburbs should unite so as to share between them the expense of obtaining a better water-supply, and they might with great advantage to themselves imitate what their big neighbour, the town of Brussels, has done in the way of effecting sweeping sanitary reforms.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Parish of St. George-the-Martyr, Southwark.—At the census of 1891 this district had a population of 210·6 persons per acre, as compared with 57·1 for London. Among the sub-districts of the parish, the Borough-road had a density of no less than 259·7 per acre. The general death-rate for 1892 was 25·2 as against 20·3 for the whole of London, 12·2 for Hampstead, and 28·5 for the Strand. The infantile mortality for the whole parish was 188 as against 155 for London, while for the sub-district of the Borough-road the infantile mortality was 220 and the general death-rate 32·3. This excessive rate is partially accounted for by the presence of the Evelina Hospital and the St. George's Workhouse in the Borough-road. The zymotic death-rate for St. George's, Southwark, was during 1892 3·6 per 1000, compared with 2·8 in London and 2·6 in the thirty-three great towns. Dr. Waldo evidently looks forward to the time when measles will be isolated in the hospitals of the Metropolitan Asylums Board, or at any rate when some provision for severe cases will be made. In reviewing the water-supply of the district Dr. Waldo suggests a double system of filtration, but even this, as he points out, would not act as an absolute guarantee against the passage of cholera germs through the filter. Certainly the recent discoveries with regard to the action of the film which is formed on the surface of the filter beds do not altogether increase our faith in the efficacy of frequent removals of the filtering material. The bye-laws for houses let in lodgings are being revised by Dr. Waldo, and he advises a house-to-house inspection of the tenements. The old hot-air disinfecting apparatus, which for many years has done service for the district, has been tested by Dr. Waldo and found to be unreliable, and a recommendation to the Public Health Committee that a Washington Lyons disinfecting apparatus be provided has been acted upon. The report gives a return of tenements in which efficient fumigation was found to be impossible owing to the fact that the tenants had no place to go to whilst the process was being carried out, and Dr. Waldo urgently advises the erection of a reception house. It will probably be difficult for the sanitary authority, after reading Dr. Waldo's very graphic description of the difficulties of proper disinfection, to avoid complying with the terms of the Public Health (London) Act, 1891, upon this subject.

Gloucester Combined Sanitary District.—This district comprises six rural and five urban sanitary districts, with a combined population of 94,041 in 1891. The mortality from influenza during 1892 was, as in 1890, greatest in the hill districts, and Dr. Francis Bond is inclined to account for this by the fact that the record of long lives is greatest in the hilly districts, and that consequently the disease found most food there. There is regular weekly communication by means of the Gloucester and Berkeley Canal with Hamburg, and this fact apparently gave rise to some anxiety in the combined districts during last year. As it appears that Cirencester is the only part of the district where isolation could be performed, there are certainly grounds for some alarm—more especially as removal from any distance in cases of cholera is quite out of the question. In discussing the hospital provision Dr. Bond looks forward with hope to the results of Lord Thring's Bill, which proposes to confer upon county councils the power of compulsorily uniting districts for the purposes of isolation accommodation. There are still three sanitary authorities in the combined district who have not yet adopted the Infectious Diseases Notification Act—that is, Chepstow and Tetbury rural and Tetbury urban districts. We notice, however, that in the Chepstow rural district a recent proposal to adopt the Act was defeated by only one vote, so that there are signs of a change. A complete account of each district is contained in Dr. Bond's report, but we have not space to notice them in detail.

Stirling and Dunbarton County Sanitary Districts.—Dr. McVail, in issuing his second annual reports of these two important districts, points out that they would have been published earlier had not outbreaks of infectious disease prevented his devoting the necessary time to their completion. The public health service of Scotland owes a debt of gratitude to Dr. McVail for his energetic action in connexion with the Burgh Police (Scotland) Act, which came into force in May of the present year.* Had this Act as it was originally framed not been amended, the results would, as Dr. McVail shows, have been most disastrous to the successful sanitary administration of the Scotch counties. It provided, amongst other things, for the conversion into a burgh of every village with a population of 2000 or over, upon the representation of any seven of its householders that they wished such a step to be taken. In consequence of this, Dr. McVail submitted a statement to Sir George Trevelyan drawing attention to some of the serious results which, from a public health point of view at least, would accrue should this provision become permanently established. As an instance, he points to the western district of Stirlingshire, in which there is but one place with a population of over 2000 inhabitants. This, which contains 2800 persons, contributes no less than 43 per cent. of the cases of infectious disease which occurred within the whole district, with a population of 12,500. To this "disease centre" the inhabitants of the surrounding districts resort for the purposes of buying and selling, and this being so it is, as Dr. McVail points out, of extreme importance that such a small centre, which contributes but 3 per cent. to the income of the district, but which, taking infectious disease as a measure, abstracts no less than 43 per cent. from it, should not be allowed to mismanage its own affairs and continue to be a "disease centre" for the surrounding country. As Dr. McVail states, it is unfortu-

[1] THE LANCET, Dec. 17th, 1892.

nately true that in any place having 2000 inhabitants there can always be found seven householders anxious to bring about some radical change in the condition of affairs. As the Act now stands the majority vote is restored, and although this is hardly all that can be wished, it will involve at least a fair discussion of the question before any aggregation of 2000 people can be converted into a burgh. While warning the readers of his reports against placing too much reliance in the county statistics for short periods, Dr. McVail states the facts that in Stirlingshire the death-rate for 1891 was 19·86, whilst for 1892 it was but 15·28. On further analysing the different groups of diseases the results decidedly point to improved sanitation as having been a considerable factor in reducing the mortality. In Dunbartonshire the death-rate was 19·65 in 1891 and 14·88 in 1892, whilst an analysis of these figures also points in the same direction as those in Stirlingshire. Dr. McVail, with a caution bred of extensive experience adds with reference to these figures, "but all this may be altered next year." In both Stirling and Dunbarton river pollution has formed the subject of painstaking inquiries and the description of the various pollutions from Turkey-red, calico printing and paper works, are full of interest. Considerable activity as regards hospital provision has also characterised the past year in both counties and the Stirling report contains a plan of the proposed hospital for the central district. We are glad to see that it includes some observation wards—a provision so frequently wanted, but so rarely found. During the prevalence of cholera on the Continent last year the Board of Supervision advised that English cholera and choleraic diarrhœa should be added to the notifiable diseases. The advice was acted upon, but in Dunbartonshire only one notification was received whilst in Stirlingshire four cases were recorded. Small-pox showed itself in Dunbartonshire towards the close of 1892. It was introduced, as usual, by means of a tramp. Dr. McVail was able to induce the railway contractors not to dismiss any of the men who had been exposed to infection until the period of incubation had passed, and also to employ those who had been exposed in a gang by themselves. Further than this, he was able to get revaccinated "every navvy working on the railway within the western district with the exception of such as had already had small-pox or had been revaccinated within recent years." It would seem that the Scotch must be very much more amenable to the persuasive powers of their medical officers of health than the inhabitants of other parts of the British Isles.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6399 births and 4966 deaths were registered during the week ending Saturday, July 22nd. The annual rate of mortality in these towns, which had increased in the preceding eight weeks from 17·5 to 24·8 per 1000, further rose to 25·1 last week. In London the rate was 22·5 per 1000, whilst it averaged 27·0 in the thirty-two provincial towns. The lowest rates in these towns were 12·7 in Bristol, 16·5 in Halifax, 18·0 in Norwich and 18·1 in Brighton; the highest rates were 33·6 in Salford, 34·1 in Blackburn, 34·9 in Liverpool, 35·1 in Bolton and 41·6 in Preston. The 4966 deaths included 1554 which were referred to the principal zymotic diseases, against numbers increasing from 415 to 1431 in the preceding seven weeks; of these, 1126 resulted from diarrhœa, 129 from measles, 88 from diphtheria, 83 from whooping-cough, 64 from scarlet fever, 44 from "fever" (principally enteric) and 20 from small-pox. The lowest death-rates from these zymotic diseases were recorded in Bristol, Huddersfield, Swansea and Derby, whilst they caused the highest rates in Leicester, Sheffield, Bolton, Blackburn and Preston. The greatest mortality from measles occurred in Manchester, Cardiff, Plymouth, Newcastle-upon-Tyne, Liverpool, Preston and Blackburn; from scarlet fever in Burnley; from whooping-cough in Swansea; from "fever" in Bolton; and from diarrhœa in Manchester, Wolverhampton, Salford, Hull, Sheffield, Leicester, Bolton and Preston. The 88 deaths from diphtheria included 46 in London, 4 in Croydon and 3 in Manchester. Ten deaths from small-pox were registered in London, 5 in West Ham, 3 in Oldham and 2 in Bradford, but not one in any other of the thirty-three large towns; 328 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 397, 381, and 364 at the end of the preceding three weeks; 53 cases were admitted during the week, against 68 and 61 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2974, against numbers increasing from 2024 to 2924 on the preceding fourteen Saturdays; 390 new cases were admitted during the week, against 362 and 348 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 235 and 203 in the preceding two weeks, were 200 last week, and exceeded the corrected average by 18. The causes of 67, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Bradford, Newcastle-upon-Tyne and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Oldham and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·5 and 21·9 per 1000 in the preceding two weeks, declined again to 20·8 during the week ending July 22nd, and was 4·3 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·9 in Leith and 17·9 in Dundee to 23·0 in Glasgow and 24·0 in Perth. The 587 deaths in these towns included 57 which were referred to diarrhœa, 32 to whooping-cough, 24 to measles, 8 to scarlet fever, 6 to diphtheria, 5 to "fever," and not one to small-pox; in all, 132 deaths resulted from these principal zymotic diseases, against 132 and 118 in the preceding two weeks. These 132 deaths were equal to an annual rate of 4·7 per 1000, which was 3·1 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 56 and 59 in the preceding two weeks, were 57 last week, of which 37 occurred in Glasgow and 5 in Greenock. The deaths referred to whooping-cough, which had been 28 and 26 in the preceding two weeks, rose again to 32 last week, and included 22 in Glasgow and 5 in Edinburgh. The 24 fatal cases of measles exceeded by 1 the number in the preceding week, and included 16 in Glasgow and 5 in Greenock. The 8 deaths from scarlet fever considerably exceeded the number recorded in any recent week; 4 occurred in Glasgow and 2 in Leith. The fatal cases of diphtheria, which had been 9 and 1 in the preceding two weeks, rose again to 6 last week, and included 3 in Paisley and 2 in Glasgow. Of the 5 deaths from "fever" 3 occurred in Dundee and 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 87 and 77 in the preceding two weeks, was again 77 last week, and exceeded by 18 the number in the corresponding week of last year. The causes of 50, or nearly 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·6 and 27·1 per 1000 in the preceding two weeks, further rose to 30·3 during the week ending July 22nd. During the past three weeks of the current quarter the death-rate in the city averaged 27·3 per 1000, against 22·6 in London and 18·5 in Edinburgh. The 203 deaths during the week under notice showed an increase of 21 upon the number in the preceding week, and included 45 which were referred to the principal zymotic diseases, against 34 and 38 in the preceding two weeks; of these, 36 resulted from diarrhœa, 4 from "fever," 2 from measles, 2 from whooping-cough, 1 from diphtheria, and not one from small-pox or scarlet fever. These 45 deaths were equal to an annual rate of 6·7 per 1000, the zymotic death-rate during the same period being 6·0 in London and 2·1 in Edinburgh. The fatal cases of diarrhœa, which had been 22 and 30 in the preceding two weeks, further rose to 36 last week. The deaths referred to different forms of "fever," which had been 3 and 4 in the preceding two weeks, were again 4 last week. The 2 deaths from measles and the 2 fatal cases of whooping-cough corresponded with the numbers recorded in the preceding week. The 203 deaths registered in Dublin last week included 63 of infants under one year of age and 33 of persons aged upwards of sixty years; the deaths of infants corresponded with the high number in the preceding week, whilst those

of elderly persons showed a slight decline. Four inquest cases and four deaths from violence were registered; and 59, or more than a fourth, of the deaths occurred in public institutions. The causes of 10, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL C. M'D. CUFFE, C.B., Army Medical Staff, obtains his promotion to the rank of Surgeon-Colonel on the approaching advancement of Dr. Jameson. Surgeon-Colonel J. Jameson, M.D., Professional Assistant to the Director-General of the Army Medical Department, obtains his promotion on the recent retirement of Surgeon-Major-General W. M. Webb. Surgeon-Lieutenant-Colonel A. Anderson has taken over Charge of the Station Hospital, Devonport, on the departure of Brigade-Surgeon-Lieutenant-Colonel Atkins.

ARMY MEDICAL STAFF.

Surgeon-Captain Thomas Moynihan, half-pay, is retired from the Service, receiving a gratuity.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced: Surgeon-Major G. S. Robertson, C.S.I., I.M.S. (Bengal), Agency Surgeon at Gilgit, on return from special duty, to officiate as British Agent at Gilgit, pro tem. Surgeon-Captain E. C. Hare, I.M.S. (Bengal), Officiating Medical Officer, 35th Bengal Infantry, to the Medical Charge of the Bundelkhand Political Agency, in addition to his military duties. The services of Surgeon-Captain C. L. Williams, M.D., I.M.S. (Madras), are replaced at the disposal of the Government of Madras. The services of Surgeon-Captain J. W. Wolfe, I.M.S. (Bengal), are placed temporarily at the disposnl of the Chief Commissioner of Burmah. The services of Surgeon-Captain H. R. G. Barber, I.M.S. (Bengal), are placed temporarily at the disposal of the Government of the Punjab. Surgeon-Major C. J. Bamber, Civil Surgeon, is transferred from Jullunder to Rawalpindi, where he assumed charge of his duties on June 12th, 1893, relieving Brigade-Surgeon-Lieutenant-Colonel G. C. Ross. Surgeon-Captain G. H. Baker, Supernumerary Civil Surgeon, is transferred from Banda to Jhansi until further orders.

NAVAL MEDICAL SERVICE.

Surgeon Reginald Thomas Alexander Levinge to the *Wild Swan*.

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion, the Princess of Wales's Own (Yorkshire Regiment): Surgeon-Lieutenant C. Tweedy resigns his commission.—2nd Volunteer Battalion, the East Surrey Regiment: Surgeon-Captain W. Gandy to be Surgeon-Major.

DINNER TO BRIGADE-SURGEON-LIEUTENANT-COLONEL C. A. ATKINS.

The officers stationed at Devonport gave a farewell dinner to Brigade-Surgeon-Lieutenant-Colonel C. A. Atkins, at the Royal Hotel, Devonport, on the evening of July 12th, prior to his embarkation for India, on promotion to Surgeon-Colonel. Amongst the officers present were: Surgeon-Colonel F. H. Welch, Principal Medical Officer, in the chair; Surgeon-Lieutenant-Colonels Anderson and Bennett: Surgeon-Major Hodson; Surgeon-Captains Haslett, Geddes, Adams, Garner and Le Quesne, V.C.; and Surgeon-Lieutenant Rivers.

THE INDIAN MEDICAL SERVICE PENSIONS.

The date of submission of applications for the four extra pensions of £100 per annum each, open to the senior officers of the Indian Medical Service has been fixed for March 1st of each year.

INSPECTION OF VOLUNTEER MEDICAL CORPS.

Surgeon-Colonel Hamilton, the principal medical officer of the Home District, inspected the Volunteer Medical Staff Corps and the regimental stretcher bearers of the various Volunteer corps in the Home District in Hyde Park on Saturday last, the 22nd inst. The parade took place in front of Knightsbridge Barracks and the exercises were planned so as to resemble as much as possible the operations necessary in actual warfare. Each corps had brought some men to represent wounded. After a preliminary inspection by Lord Methuen as general officer commanding the Home District, the actual work of the Medical Corps was proceeded with and was watched with apparent interest by Colonel Bushman, from the Portsmouth District, by Colonel Trotter and several other officers from various stations. Two tortoise field hospitals were pitched at one end of the ground. Some distance from these a dressing station was arranged. Beyond the two collecting stations men were placed with labels on them representing different injuries. The regimental bearer companies conveyed the wounded from the line of fire to the collecting stations, where they were handed over to the care of the Volunteer Medical Staff Corps, thence they were conveyed to the dressing-station and field hospital by seven ambulance waggons belonging to the Volunteer corps. Lord Methuen expressed himself as pleased with the manner in which the work had been performed. Indeed, the Volunteer Medical Staff Corps did their portion of the work in a highly satisfactory way. But so far as the medical officers were concerned they seemed to have some difficulty in following military routine and in understanding the orders. The arrangements were made by Surgeon-Captain Hayes, Adjutant of the Volunteer Medical Staff Corps, and Surgeon-Captain Yarr of the Guards.

A NEW AND PORTABLE FIELD HOSPITAL.

We called attention some time ago to a new kind of field hospital which was on view in the Prater at Vienna. It is a wooden structure of very simple construction with all its parts interchangeable, and it is alleged that it can be erected or taken down, packed and transported with great facility. It is the invention of Dr. Hofgraeff and is to be tried experimentally by the Austrian troops at Bruck camp.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the last quarterly meeting of the directors of this fund the sum of £64 was distributed amongst the applicants.

CIVIL DISPENSARIES IN UPPER BURMAH.

The practice of medicine and surgery has played an important part politically in the past history of India. The natives of that country have not been slow to appreciate the benefits which medical officers of the Indian Medical Service were capable of rendering them, and the work of these officers in this respect has done much to consolidate our rule by securing the good will of the people. The advantages of the civil dispensaries are beginning to be appreciated, according to the reports of the Anglo-Indian journals, in the newly annexed territory of Upper Burmah. The inhabitants are generally a well-to-do, healthy vegetarian people, and serious surgical cases or diseases are relatively rare among them. The number of persons applying for medical relief at these dispensaries in Upper and Lower Burmah is already considerable, and it is increasing. The last report of Surgeon-Major Dalzell is a satisfactory one, and shows that medical work and relief are being pushed forward in the country.

SOLDIERS' INSTITUTE AT WOOLWICH.

On the 24th inst. the Duke of Cambridge laid the foundation-stone of a new soldiers' institute at Woolwich. The site—which we do not think an altogether good one, but it was the only site available, we understand—is on a portion of Government land facing Wellington-street and near the Royal Artillery riding schools. The building when erected will, it is said, be a handsome one. In addition to a principal hall, 44 ft. by 25 ft., it will provide a library, baths and other arrangements, and it will no doubt be a great boon to the garrison, for an institution of the kind has long been wanted.

FIELD HOSPITAL SYSTEM IN INDIA.

It is reported that the principal medical officer of Her Majesty's forces in India and the medical officials at Simla are at the present time engaged in drawing up and perfecting a field hospital system for India. The regulations on the subject, which were issued not very long ago, are quite on the right lines, but have been found, we presume, capable of revision and development with advantage to field service in that country.

INDIAN TROOPSHIP PROGRAMME.

The programme of movements of Indian troopships for the season of 1893–94 has been published and a few remarks may be opportunely made on the subject. We are fully aware of the difficulty of making these arrangements so as to fit them in with the requirements of the service, but it seems to us that for young soldiers to arrive in India for the first time

on March 23rd, for instance, at the commencement of the hot season, is a trying experience and not to be recommended on hygienic grounds. We agree with our Service contemporary, the *Broad Arrow*, in thinking, too, that the accommodation for married ladies—the wives of officers—might be improved with advantage, and that one or more stewardesses might also be advantageously provided to wait upon them and, to some extent, upon the children.

MEDICAL OFFICERS ON TROOPSHIPS.

According to the Indian papers the number of officers of the Army Medical Staff to accompany troops on the homeward journey being insufficient this year, volunteers have been called for from the Indian Medical Service who are going on furlough.

THE CONTAGIOUS DISEASES COMMISSION.

Mr. Ibbetson and Surgeon-Colonel Cleghorn, members of the Cantonment Act Commission in India, left Simla for London on the 11th inst. to give evidence before Mr. Russell's Committee.

Correspondence.

"Audi alteram partem."

THE CORONER'S FUNCTION.

To the Editors of THE LANCET.

SIRS,—I send with this a copy of the *Sydenham and Penge Gazette* of July 22nd, with the report of an inquest held at Catford on the 18th inst. There are one or two omissions in this report which are herewith supplied: 1. Dr. Grayling of Forest Hill kindly made the post-mortem examination for me. 2. The coroner received a full written report of the case from me on Monday, the 17th inst.—i.e., the day before the inquest—through his officer. 3. The "Government instructions" referred to were the "Suggestions to Medical Practitioners respecting Certificates of the Cause of Death" issued by the Registrar-General, of which the following was read: "Medical practitioners should not content themselves with assigning, as is too often done, some prominent symptom as the cause of death, but should state, whenever possible, the disease to which the symptom was due." "When the cause of death has been verified by a post-mortem examination the letters 'P.M.' should be added."

As this case is of some interest to the profession, will you kindly state: 1. Whether a medical practitioner "exceeds his functions," and if so in what way, in making a post-mortem examination with the sanction of the relatives of the deceased person in order to ascertain the cause of death? 2. Whether it is usual to hold an inquest on such a case as that recorded when the fullest information has been already given by the relatives to the registrar and by the practitioner in attendance on the patient to the coroner? 3. As the deputy coroner states that "in some cases such a course" as that here taken "might be serious," what other course should have been followed to avoid "giving trouble"? It is interesting and very instructive to note that after the recent comments in the press regarding the occasional irregularity or vagueness of certificates of death it is now thought by the deputy coroner for the Lewisham district that a medical practitioner "exceeds his functions" in making a post-mortem examination in order to ascertain, if possible, the cause of death.—I am, Sirs, yours faithfully,

Forest-hill, July 25th, 1893. JOHN M. BRIGHT.

*** We have read Dr. Bright's letter and also a newspaper report of the inquest. We have no hesitation in saying that Dr. Bright would have been perfectly justified in giving a certificate of death without making a post-mortem examination; but it was to his credit that he resolved to clear up all doubt as to the cause of the peritonitis. Whenever the cause of death is doubtful an inquest should be held, but in this case we cannot see the slightest ground for the coroner's procedure. To support it one of two propositions should be affirmed: (1) either that there was reasonable doubt to suppose that the death did not arise from natural causes, apart from the medical attendant's certificate and the information to the coroner; or (2) that the coroner had grounds for questioning the *bona fides* of the medical attendant. Here neither could be advanced so far as the reported evidence went. The testimony of the registrar was singularly instructive and amusing. He said that had the certificate simply been one of death from peritonitis he would have accepted it, but inasmuch as the cause of the peritonitis was given he declined to do so. The natural result of following such a decision would, if acted on, be to deter medical men from obtaining what information they could obtain in making a necropsy; or, in other words, it would put a premium on carelessness or neglect of duty. We unhesitatingly say that Dr. Bright acted in the spirit and letter of the regulations laid down for the guidance of medical men in drafting death certificates. Why an inquest was held in this case we are at a loss to comprehend.—ED. L.

"THE NERVOUS SEQUELÆ OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—I hope I may be pardoned when I express my disappointment at finding that Dr. Gowers and Dr. Wilks should, in their communications on the above subject which have recently been published in your columns, have ignored the facts and opinions recorded in two consecutive editions of my book on Influenza (London 1891 and 1892), as well as an address "On Psychoses after Influenza" which I delivered before the Psychological Section of the British Medical Association at Nottingham, in July, 1892, and which is published in the *Journal of Mental Science* of April, 1893. It is indeed disheartening, after all that has been observed and written on influenza during the last three or four years—more than 500 recent papers on it having been quoted in my book,—to be told by Dr. Gowers that "each epidemic has come and gone and left mankind no wiser than before" and that "the recent epidemic has likewise come and gone, or at least is going, with its mystery unrevealed!" For Dr. Gowers evidently Pfeiffer's bacillus, and the whole research which has preceded and followed the discovery of that microbe, do not exist. I confess that I do not take such a low estimate of our knowledge, but consider that a large portion of the veil which formerly concealed the nature of influenza has been lifted in our time and that I look forward to "more light" as we go on. Dr. Wilks, on the other hand, appears almost to deny the existence of influenza as a distinct disease, calling it "hypothetical," and demurring to its having sequels—i.e., new phenomena arising after the disorder has passed away.

In discussing this latter point I feel that I cannot do better than quote from the admirable "Studies of Old Case-books," in which Sir James Paget speaks (p. 98) of sequels as certain conditions of blood and structure, which sooner or later may manifest themselves in what may be named a residual disease. He objects to the term "sequelæ" used by Drs. Gowers and Wilks as both "ugly and un-English"; and I trust that at least one result of this discussion may be to sweep away the term "sequelæ" in favour of "sequels." Sequels may, according to Sir James Paget, appear very soon after the primary disease from which they are derived, as secondary syphilis after primary, or as paralysis after diphtheria; or they may be long delayed, as when periostitis appears one or two years after typhoid fever. Of both early and late sequels of influenza affecting the different organs of the body numerous striking and conclusive instances have been given in the third chapter of my book (pp. 84—279), showing more particularly that pathological events, which were not in the least foreshadowed in the primary attack, may occur after comparatively slight seizures of influenza and as long as six months after convalescence has set in. Dr. Wilks must allow me to point out that such sequels exist over and above those initial nerve symptoms of which he speaks "as the very essence of the complaint." I agree with him in thinking that such initial symptoms, however long they may continue, cannot be properly called sequels; but cases of that kind constitute only a fractional part of what may eventually take place in consequence of the poisoning of the nerve centres incidental to influenza, true early and late sequels after apparent recovery being extremely numerous. Of influenza without fever, to which Dr. Wilks alludes as being incomprehensible to some minds, I have spoken on pp. 24 to 26 of my book. In conclusion, I must express my satisfaction

at finding that the facts of influenza appear to Dr. Wilks to point to its nervous origin, since I have devoted much trouble and space (pp. 15 to 84), not only to proving this contention, but likewise to showing the exact portion of the nervous system, which I believe to be originally affected by the virus and which is the bulb.—I am, Sirs, your truly,

Harley-street, July 22nd, 1893. JULIUS ALTHAUS, M.D.

A "UNITED SERVICE MEDICAL INSTITUTE" IN LONDON.

To the Editors of THE LANCET.

SIRS,—I would be glad of space to urge in the columns of THE LANCET the need of a medical society in London to read papers, discuss questions and publish a quarterly journal on subjects bearing on all the duties and work of the medical officers of the army and navy and including the militia and volunteer practitioners. Unfortunately no such society now exists, although I am confident that it is urgently needed and would do good work if once started. Nothing can be more painful to a military surgeon of the English army when visiting the military medical institutions of the continental armies than to have to confess that there is no recognised journal dealing with their most interesting, most varied and most responsible duties. The armies of every other European country publish such a journal. Even Sweden, which cannot be considered a very great military Power, has its own military medical periodical. If the translations of the papers published by foreign military medical societies were made available for us, they would furnish in themselves material for the maintenance of a journal and much instructive matter. But our own experiences by sea and land, in peace and in almost constant wars in every possible climate and every class of health conditions would in themselves furnish most interesting contributions to the history of naval and military medicine. It is the greatest of pities that no periodical exists in which to record them. With two Services like the English naval and military medical Services—by far the best in *personnel* in the world—we seem to halt as it were on the road that leads to a fuller efficiency—largely, to my mind, because we have few or no discussions, no scientific meetings, no journal and no means of circulating opinions and combining for mutual instruction. To read the military and medical journals, outsiders would imagine that our whole aim was to become colonels and generals and that little keenness existed for our own technical duties. Outsiders so thinking would be entirely wrong, for although pay and rank and equal rights underlie and react enormously on our efficiency they do not in themselves constitute efficiency, but are only means to that end, and we all inside the Services know that the fight for professional and technical efficiency is, considering our enormous handicaps by wars and foreign service, keener by far than the average of that great profession to which we are all so proud to belong, in whose cause we have suffered so much, and on our skill in which as sanitarian administrators or practising physicians we base all our claims to status and equality with professions more honoured by the State.

The institute or society I advocate would consist of active list and retired list officers of the Naval, British and Indian Medical Services, the militia and the volunteer practitioners—in fact all those who by land or by sea are serving England or are available to serve England in her wars. The meetings would be held in London, and the "proceedings" of the society would form a United Service medical journal filled up with papers read as well as by the collection of papers from distant contributors and from the foreign journals. It will be said by some, and quite wrongly, that there are in London plenty of societies each covering a portion of our work and that naval and military physicians could join such societies. I desire to say that such is not possible. Officers liable to prolonged foreign service cannot join so many societies, the expense alone would be prohibitive, and it must not be forgotten that, specialists as we are for war work, every fact in medicine, surgery, administration, hygiene, or therapeutics has to be modified to meet our special needs and brought down to the level of the battle-field or of war surroundings. The man who, gripping some new theory either in hygiene or medicine, or operative or therapeutic details, reduces it to a definite rule of practical work is the kind of war surgeon our Service needs. Just as the aurist, the oculist, the alienist or the obstetrician belong each to a specialist branch grown out from the main trunk of medicine so the war medical officer is daily becoming more specialised and more differentiated from the great profession to which nevertheless he must always belong. We need, therefore, a special society and a special journal. The subscriptions to such a society would support the journal, copies of which would be sent to those officers who, on foreign service far away from England, found it difficult to keep abreast of the progress of their own special line mainly for want of a journal of their specialism. We must not look, in the first instance, to the State for aid. In England the State follows the lead of the individual and stamps with its approval the work which individuals begin. Later on, when the society or institute exists, we may receive from the State such aid as is now given to the institutes of the artillery and engineer corps of our army, but with which we with a far more technical calling have not as yet been favoured.

I trace my own mental evolution in a distinct manner to the valuable Blue-books of the Medical Department of twenty years ago, which were so wisely distributed to every officer of the military service and which contained highly instructive papers full of suggestions and guidance to officers who had no other means of following the specialisms of their calling. Latterly these books have not been so circulated and the once full appendices are now reduced to a few pages. But our scientific needs and our executive responsibilities have not diminished, as have the Blue-books—quite the reverse. The military surgeon of 1863 and the same of 1893 are very far apart in evolutionary development and thirty years hence there will be still more differentiation into soldiers and surgeons. It is to aid in that differentiation, that evolution towards fitness to do one's work, that I suggest this most needful coöperation and association of a body of officers individually full of great experience, but not as yet so combined for the common good as they might be. I beg that any naval, military, militia or volunteer practitioner who supports this idea would favour either you or myself with suggestions or opinions on this matter, which seems to me of much importance and with which many, I am sure, will sympathise. At first no office or rooms would be needed, only a naval and a military secretary and a representative council. Later on, aided by the State, a habitation might be found, such as the War Office has built for the Royal Artillery Institute at Woolwich or the Engineer Institute at Chatham. In both these institutes full pay officers are allowed by the State to act as secretaries and every help is given in developing their scientific journals. A day is sure to come when a like act of justice will be done for us; the first initiative must, however, come from outside the State. In the pages of such a journal questions about pay or status would find no place. Matters trenching on discipline or which could be settled by the Director-General of either of the Services could not be dealt with; but, these apart, there remains a wide, most varied and, to my mind, singularly interesting field for discussion and contribution from a body of scientific men scattered over a great empire and serving England under countless conditions of difficulty and danger and variety of surroundings.

I am, Sirs, your obedient servant,

Woolwich. GEORGE EVATT, M.D.

"THE RELIEF OF INTRA-VENTRICULAR PRESSURE BY DRAINING THE SUB-ARACHNOID SPACE IN TUBERCULOUS MENINGITIS."

To the Editors of THE LANCET.

SIRS,—Mr. Morton's paper in THE LANCET of July 22nd raises the interesting question of the cause of death in tuberculous meningitis. Mr. Morton argues strongly against pressure being the most important factor and mentions that the cerebral ventricles may show no sign of dilatation. Nearly everyone who has made or seen post-mortem examinations on cases of tuberculous meningitis must have noticed the varied conditions in which the brain may be found at the time of death. The substance of the cerebral hemispheres may appear healthy to the naked eye and the ventricles of normal size, or the whole organ may be transformed into a soft bag full of fluid, which bursts through its pulpy covering as soon as the dura mater is removed. In some cases the pia arach-

noid, although tubercles are present, will peel from the Sylvian fissure almost as readily as in health, in others brain substance of almost creamy consistence adheres thickly in considerable quantity to its under surface. In the former class of cases the cause of death is not obvious, but in the latter class the wonder is that the patient has lived so long, since one would imagine that either the distension of the ventricles or the inflammation of the brain substance of the convolutions would, acting independently of each other, have been sufficient to kill. That in those cases in which the macroscopic lesions are not extensive, microscopic or still finer pathological changes are not likely to be present is suggested by the fact that in one child seen by myself there was that strange return to consciousness about twenty-four hours before death that is sometimes noticed in tuberculous meningitis. The absence of evidence of marked change in the brain substance would lead us to go a step further than Mr. Morton, and to say that not only may death not be due to excessive intracranial pressure, but that it is not always clear when signs of that pressure are absent that inflammation under the pia arachnoid has been the cause of the fatal ending. Possibly cessation of action of the lower cerebral centres is brought about by organic poisons produced by the inflammation. Whilst, however, death may not in many instances be hastened by increased intracranial pressure, I should not like to express the opinion that an operation for its relief, when present, is irrational. One would suppose that restoration of the interior of the cranial cavity as nearly as possible to the conditions of health would offer the best prospects of cure, unless the increased pressure be considered likely to hinder the spread of the disease, as it apparently may do in the chest. I am, Sirs, yours truly,

Oakfield-road, Clifton, Bristol. THEODORE FISHER.

"SO-CALLED 'VILLOUS CANCER OF THE BREAST.'"

To the Editors of THE LANCET.

SIRS,—In your last issue Mr. Roger Williams writes a letter criticising an article of mine on "Villous Cancer of the Breast" which appeared in THE LANCET of June 10th last. Mr. Williams is good enough to mention various cases of "duct cancer" of which he considers I must be ignorant, and is apparently unable to realise the fact that the reason why I have not included these in my paper is that what he calls "duct cancer" I do not. I can only repeat and emphasise what I wrote in the paper under discussion: that "the clinical characters of the growths he deals with under the term of 'duct cancer' vary so greatly that for clinical purposes the name would have no significance if employed as he would seem to wish." In conclusion, I can assure Mr. Williams that I have not neglected to study his numerous and lengthy communications on cancer, though I fear he must think that I have not profited thereby.

I am, Sirs, yours truly,

Manchester-square, July 22nd, 1893. ANTHONY A. BOWLBY.

"SURGEON-MAJOR KING AND THE USE OF VARIOLOUS LYMPH."

To the Editors of THE LANCET.

SIRS,—The following extract from Dr. W. J. Simpson's article on "Small-pox and Vaccine," which appeared in *The Practitioner* for July, 1892, will perhaps serve to clear up what Dr. Pringle thinks obscure in Surgeon-Major King's case: "Dr. W. G. King of Madras.....inoculated a calf with small-pox lymph of five days' duration, and in this a crop of secondary vesicles appeared on the eighth day. From this lymph another calf was inoculated, and there was also in this second calf a crop of secondary vesicles with the addition that every insertion had also taken. A third and fourth generation were passed through other calves, with the insertions always taking and no appearance of secondary vesicles forthcoming, after which the lymph in the fifth generation was used on children with most satisfactory results. From this stock 4240 British and native soldiers have been vaccinated, and a very large number of the native civil population, with most gratifying results, the percentage of successes being much above that which was obtained from the lymph in use. For this good work the Government of Madras—from some misconception as to the true value of Dr. King's work—have sent Dr. King back to his regiment, depriving him of all his emoluments." Dr. Pringle seems to hold that cow-pox cannot be produced by inoculating calves with small-pox lymph. Surely the positive results obtained by Surgeon-Major King, corroborated by the equally positive results obtained by Dr. W. J. Simpson, whose experiments were made under conditions apparently leaving no room for error, must outweigh a hundredfold the failures of M. Chauveau, of Dr. Klein, and of Dr. Pringle himself.—I am, Sirs, your obedient servant,

Russell-square, W.C., July 24th, 1893. P. GOWAN, M.D. Edin.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—I am sorry I somewhat misunderstood Mr. Pike. It appears that this gentleman, in advising all medical men to refuse as club patients such as could pay moderate fees, was referring to some particular scheme under his notice. As I have therefore no desire to discuss any particular club or individual system of things, I express no opinion thereon. I may be allowed, however, to state, speaking of almost all contract work, that the inherent and inseparable principles—or I should rather say the inherent and inseparable practices—upon which this kind of work is based are, in my opinion, so adverse to the general interest, and I may add self-respect, of the medical profession that I do not believe that any amount of ingenuity or tinkering can by any stretch of imagination make it otherwise than what it has hitherto been—and that is a complete failure.—I am, Sirs, yours truly,

Queen's-road, July 24th, 1893. CLEMENT H. SERS.

AN OUTBREAK OF RÖTHELN.

To the Editors of THE LANCET.

SIRS,—I was exceedingly pleased to read in THE LANCET of July 22nd Dr. Meredith's paper on Rötheln and to find that his views corresponded so closely to my own. The literature on the subject generally is exceedingly confusing, and no two authorities appear to be in perfect agreement with regard to the diagnostic points. Reports therefore of this disease cannot but be welcome, and it is my intention to publish notes of the cases that have come under my care when they are quite complete. I cannot help thinking that the present epidemic of scarlet fever, so called, is mostly one of rötheln, and I should be greatly interested to know the number of cases in which there has been distinct kidney complication. I am, Sirs, yours truly,

Surbiton, July 26th, 1893. F. P. ATKINSON.

PROPOSED SCOTCH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—It has often struck me as remarkable that whilst the Irish schools and graduates have a large and flourishing association in London, the Scotch schools and graduates, which far out-number the Irish, have no similar institution. I venture to propose the establishment of "a Scotch medical schools and graduates association" on the same lines as the Irish society—i.e., a non-political, non-sectarian body, with its objects: (1) To support in every legitimate way efforts made to improve the status of the profession at large and especially of those holding Scotch degrees or diplomas in medicine and surgery; (2) to promote social intercourse amongst those holding medical qualifications obtained in Scotland and others who have studied at a recognised Scotch school of medicine. Should this suggestion meet with the approval of your readers I shall willingly undertake the formation of a committee for the purpose of hiring a large hall in London and holding a general meeting, to which all Scotch graduates, diplomates and past students would be invited.

I am, Sirs, yours truly,

R. J. BLACKHAM, L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glas.
Sidcup, Kent, and Junior Conservative Club, Albemarle-street, Piccadilly, July 26th, 1893.

"OBESITY TREATED BY AN EXCLUSIVELY NITROGENOUS DIET AND COPIOUS LIBATIONS OF WARM WATER."

To the Editors of THE LANCET.

SIRS,—With regard to Dr. Savill's paper on the above subject published in THE LANCET of July 15th, although it is

quite true that I suggested the treatment, still I think it only due to Dr. Gowers Smith to state that I obtained the suggestion from him, having been under his care myself some year or two earlier for the same condition.

I am, Sirs, yours faithfully,

ROBERT H. LLOYD, M.D.

Lambeth Infirmary, Brook-street, Kennington-road, S.E., July 20th, 1893.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

A New Railway for Durham City.

A NEW line was opened this week in the city of Durham to connect the city with Sunderland and Hartlepool by Elvet and Marton. It should be mentioned that Mr. Alderman W. C. Blackett, M.R.C.S., of Ripon, late of Durham, who may be said to have been the pioneer of this new line, had the pleasure of seeing it opened on Monday last.

Singular Death from Asphyxia.

An inquest was held last Saturday at Willington Quay-on-Tyne on a workman aged sixty-three. It was shown that some fumes escaped from a wallside which were afterwards found to proceed from an underground fire hitherto unsuspected and that death arose from inhalation of carbonic oxide.

An Odd Fish.

A curious fish was landed last week by the local steam trawlers at North Shields Fish Quay. It proved to be a large skate and on its body was cut in bold letters P.O.P. It is supposed by the fishermen that this was done whilst the fish was young and that it was then thrown overboard.

Friendly Societies Parade at Skelton-in-Cleveland.

The various Friendly Societies of Skelton-in-Cleveland, North Yorkshire, had their annual parade on Sunday last, an attractive feature of which was a number of little girls dressed in white, preceded by bands, and carrying flowers. The collections were for the Grange-over-Sands Convalescent Home.

Tynemouth Infirmary: a Noteworthy Experiment.

Arrangements have been made at the Tynemouth Infirmary whereby parties of children can be shown over the building, and its various purposes can be explained by a member of the committee in attendance, the object being to induce the children to take a present interest in the Infirmary which it is hoped may remain to some extent in after life.

Bazaar at Chillingham Castle.

The sum realised by the bazaar held at Chillingham Castle on the 13th and 14th inst. on behalf of the Bethnal Green Hospital in connexion with the Mildmay Mission, North London, amounts to £300.

Newcastle-on-Tyne, July 26th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Dr. J. F. McVeagh of Dublin.

THIS gentleman, whose death was recently recorded in THE LANCET, has left his widow and four children in very straitened circumstances. It is a matter to be deplored that a medical practitioner after fifty years' work should have been unable to provide a fund for those dependent upon him. Some friends of the late Dr. McVeagh have appealed for help under the sad circumstances and have already collected a sum amounting to nearly £400.

Royal College of Surgeons.

A vacancy has occurred in the council in consequence of a gentleman who had recently been elected having been unable, owing to an illness of some months' duration, to be sworn in within a month after election in accordance with the terms of the Charter of the College. The election will be held on Monday next, the 31st inst. A meeting of the Fellows will be held on the same day to receive the financial statement of the council, when an important discussion may be expected as to the liabilities of the College.

Health of Dublin for June.

As compared with May there was a large decrease in the mortality caused by typhoid fever, but an increase in the fatal cases of diarrhœa. Whilst the death-rate was much below the average in the first five months of the year, it increased to 3·46 per 1000 above the average in May. The high temperature caused a great mortality from diarrhœa amongst infants, to some extent on account of their food—especially milk—becoming sour and decomposed.

Board of Superintendence of Dublin Hospitals: Annual Report.

The mortality of the patients in the Westmoreland Lock Hospital was 2·61 per cent. on the total number treated to a termination of their illness, and the medical staff are of opinion that of late years the virulence of syphilitic disease has diminished, which may be ascribed to the fact that patients find ready access to the institution and are never denied admittance. The low mortality (4·39 per cent.) at Steevens's Hospital, the board point out, may be chiefly attributed to the large number of constabulary patients that are admitted, many for diseases that are comparatively less fatal than those that are usually admitted into general hospitals. The board speak highly of the order, regularity and cleanliness which prevailed in the Meath Hospital. The main building of this hospital is as perfect as it can be made and is supplied and furnished with every modern requirement up to date; but the board cannot approve of the detached fever wards, which are too small and not arranged according to modern views. The managing committee have, however, in contemplation the building of a new and commodious wing or detached building for the reception of patients suffering from infectious diseases. To make this hospital attain its fullest usefulness it would be necessary to have more extended accommodation for surgical cases. It may be mentioned that the bed urinals in use are of glass, and it is to be hoped that other hospitals may adopt the same kind. The governors of the House of Industry hospitals, anticipating a visitation of an epidemic of cholera or small-pox in Dublin, have taken steps to make due provision for the reception, isolation and medical treatment of patients affected with such diseases. The Rotunda Lying-in Hospital, as a school for giving instruction in gynæcological and obstetric teaching, holds the highest reputation. The accommodation for the reception and treatment of patients affected with diseases peculiar to women having been considered inadequate, the governors have decided to erect a large and well-appointed auxiliary hospital in close connexion with the existing buildings and to convert the old auxiliary hospital into a residence for male officers and pupils. The mortality of the labour patients, deducting non-parturient cases, was 0·78 per cent., and that of the chronic class was 3·70 per cent. The governing corporation of the Coombe Lying-in Hospital is self-elected and limited to twenty-one members, without any reference to those subscribers who contribute to the support of the institution. This system appears to be indefensible; a charitable hospital should be governed by a committee elected by the subscribers. The mortality of the labour patients was 2·05 per cent. and for the chronic cases 2·18 per cent. The governors of St. Mark's Ophthalmic Hospital are anxious to effect such an amalgamation with the National Eye and Ear Infirmary as would ensure the erection of a new hospital more useful to the public. When the terms of the draft scheme are agreed upon it is proposed that the governors of the two hospitals should combine in a joint application to the public for the sum of £15,000, which would be necessary to erect the new institution. As, however, amalgamation has been talked of for the past three years or so, I am not very sanguine that these institutions will amalgamate for the present.

The City Coronership.

The appointment to the coronership (vacant owing to the death of Dr. Dill) will be made at a special meeting of the council in committee, to be held on Monday next. I understand that there are already numerous candidates in the field. The selection must be made within ten days after the official intimation of the death of the late coroner; and as that intimation was dated on the 21st, Monday is the latest day on which the vacancy can be filled.

The Chair of Obstetrics, Queen's College, Belfast.

A large number of medical practitioners in the North of Ireland have signed the following petition: "To the Rev. Thomas Hamilton, D.D., President of Queen's College, Belfast,—We, the undersigned members of the medical

profession, having learned that Dr. Byers is a candidate for the chair of midwifery and of diseases of women and children in Queen's College, Belfast, desire to express our opinion that he is most highly qualified for the vacant professorship. His long devotion to the subjects, his thorough knowledge of them (as evidenced by his published papers), his recognised ability as a teacher and lecturer, and his experience as an examiner in the Royal University of Ireland—all demonstrate his peculiar fitness for the position. In the interests of the Queen's College and of the Belfast School of Medicine we would strongly urge his appointment."

The committee of the Nile-street Hospital at Cork (Eye, Ear and Throat Hospital) have appealed to the public for a sum of £5000 to reconstruct the hospital.

The Cholera Hospital (Ireland) Act, 1893, gives boards of guardians power to compulsorily acquire land for the purpose of erecting a cholera hospital in case that disease should appear in their district.

July 25th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Gout and Piperazin.

BIESENTHAL'S preparations of artificial gout and the result of treatment by piperazin, exhibited at the meeting of the Berliner Medicinische Gesellschaft, were very striking and attracted a considerable amount of attention. The experiments have been conducted in the Pathological Institute of Berlin with Professor Virchow's approval, and will doubtless be soon fully published. Mendelsohn urged that the affection produced by artificial means can hardly be correctly called gout.

The International Medical Congress.

Professor Virchow has been appointed to represent the Medical Faculty of the University of Berlin. It seems probable that there will be a very considerable muster of German medical men, and Germany will send also a number of distinguished official delegates.

Saline Infusion preliminary to Double Amputation for Injury.

Professor von Bardeleben [1] relates the case of a man both of whose legs were crushed by a railway waggon. The patient was brought to the Charité unconscious and pulseless, respiration irregular and superficial—in fact dying from loss of blood. Both median basilic veins were opened and 1800 c.c.m. (nearly three pints) of 0·6 per cent. solution of common salt were slowly injected. Both limbs were afterwards amputated—one below the knee the other below the trochanter. The patient made a good recovery, although the amputation below the knee was unsuccessful on account of sloughing, and amputation through the condyles of the femur had to be afterwards carried out. The large quantity of salt water injected caused no disturbance in kidneys or heart and only a temporary disturbance of the nervous system.

Puerperal Eclampsia.

Bidder [2] tablulates 455 cases of eclampsia which occurred amongst 60,500 parturitions—i.e., 1 in 133. He comes to the conclusion that the affection is not epidemic and is not influenced by the seasons. Premature confinements are frequently thus complicated. Of the 455 cases 74·3 per cent. were primiparæ. The influence of twin or more children is shown by the fact that of 46 births 1 was twin or more, but of the cases of eclampsia 1 in 13 was twin. The expulsion of the child exercises a beneficial influence in at least half the cases. The mortality amongst the eclampsia patients was at the rate of 17·3 per cent.

Cow's Milk and Human Milk.

Soxhlet proposes by the addition of extra milk-sugar to diluted cow's milk to make up for the lowered percentage of fat which the diluted milk contains. According to König cow's milk in relation to human milk contains 0·24 per cent. less water, 0·09 per cent. less fat, 1·33 per cent. less milk-sugar; on the other hand, 1·26 per cent. more albuminous matter and 0·40 per cent. more ash. If cow's milk be diluted with half its bulk of a 6 per cent. solution of milk-sugar the mixture contains as much albuminous matter and milk-sugar as woman's milk, but 1·32 per cent. less fat. Soxhlet proposes to get over the difficulty of adding fat by substituting an extra quantity of milk-sugar so as to bring the food value up to the normal, this can be done by diluting cow's milk with half its bulk of a 12·3 per cent. solution of milk-sugar.[3]

Cirrhosis of the Liver.

Palma [4] highly recommends calomel in cirrhosis of the liver If diuresis is excited, the patient gets relief in a very short time. If after paracentesis and calomel no diuresis is established, then the changes in the liver are advanced and the prognosis is correspondingly unfavourable. The dose suggested is, daily for three successive days, three powders, each containing three grains of calomel, a chlorate of potash gargle to be used at the same time.

Osteomyelitis and Staphylococcus.

Dr. Bommers [5] describes a case of idiopathic osteomyelitis, in which blood taken with all due precaution from the fingertip four hours before death gave on glycerine-agar and in bouillon, after twelve hours in thermostat, a pure culture of staphylococcus pyogenes albus. The post-mortem examination showed osteomyelitis in both tibiæ and in the right humerus, but did not give any indication as to how the staphylococcus had obtained an entry.

July 25th.

[1] Berliner Klinische Wochenschrift, No. 30.
[2] Archiv für Gynäkologie, Band xliv.
[3] Soxhlet: Der Chemische Unterschied zwischen Kuh- und Frauenmilch. 1893.
[4] Therapeutische Monatshefte, iii., 93.
[5] Deutsche Medicinische Wochenschrift, No. 23.

Obituary.

FREDERICK AUGUSTUS COX, M.B.LOND., M.R.C.S.ENG.

DR. COX was the son of the late Mr. Wilberforce Cox and grandson of the late Rev. F. A. Cox, D.D., LL.D., of Hackney. After a sound classical and mathematical education, to which was added some knowledge of French and German, he matriculated at the London University, and then obtained (in 1874) the entrance exhibition at St. Mary's Hospital, where he also took prizes in chemistry, botany and materia medica. In due course he became a Member of the Royal College of Surgeons. He was for some time assistant surgeon and chloroformist at the Vincent-square Hospital for Women and subsequently lectured on medicine at the Zenana Medical College; he also acted as clinical assistant at the Throat Hospital and assisted his uncle (Dr. Prosser James) in his practice. But he had already been threatened with phthisis, and several times had been obliged to suspend work on account of hæmoptysis. However, he pursued his career and graduated, although during the last examination he had another attack of hæmoptysis. From an early period he was interested in diseases of the skin, and worked at the Western Skin Hospital and to that institution he was physician for a number of years and up to the time of his decease. He published a few articles on subjects connected with the skin. He was, however, averse to writing much on the subject he had chosen for his work until he had accumulated still larger experience and carried out further investigations. About eighteen months ago further lung trouble occurred, and by the advice of his medical friends he spent a good deal of his time at St. Leonards, but continued his hospital duties as well as the work of the Hamilton Association for Providing Trained Male Nurses, of which he was medical superintendent, and in which he took the greatest interest from its foundation. Six months ago a much more severe attack of recurrent hæmoptysis than he had previously had caused great injury to the lungs. Another attack occurred on Sunday, the 9th inst., and he died on July 12th, aged thirty-seven. He has left a widow and four children.

ROBERT FOSTER DILL, M.D. GLASG., M.R.C.S. ENG.

WE have to announce the death of the oldest medical practitioner in Belfast, Dr. Dill, which took place in that city on July 20th. Dr. Dill was born in the county of Donegal in 1811, so that he had reached the ripe old age of eighty-one years. He received his medical education both in Dublin and Glasgow. In 1833 he became M.R.C.S.Eng., and in the

following year he graduated in Glasgow University. He practised at first in Limavady as assistant to his uncle, Dr. Marcus Dill, but he afterwards went to Belfast, where he held many appointments at various periods. For a time he was one of the medical attendants of the Belfast Dispensary; he was also physician to the Royal Hospital and afterwards consultant. When, on the death of Dr. Burden, a vacancy occurred in the professorship of midwifery in Queen's College, Belfast, he was appointed to the chair, which he continued to fill till the close of the session 1891-92. During the past winter he was unable to lecture and the duties of the chair were discharged during the whole of the session by Dr. Byers. Dr. Dill was also consulting physician to the Ulster Hospital for Women and Children and he took a very deep interest in this charity. He served the offices of President of the Ulster Medical Society and of the North of Ireland Branch of the British Medical Association. In addition to his many other appointments he had been coroner for Belfast since 1865, and he continued to discharge the duties of this post until within a few days of his death. From his many appointments Dr. Dill occupied a very public position in the city of Belfast. He was a man of strong individuality of character, extremely kind to his friends and most hospitable. He was very happy in an after-dinner speech and at all medical entertainments he was a very welcome guest. His funeral took place on Saturday, July 22nd, and was largely attended by members of the medical profession. Dr. Dill's wife died only a year ago and he felt her loss keenly. He leaves four daughters and one son, a well-known clergyman in the Established Church of Scotland.

THE ROYAL COLLEGE OF PHYSICIANS.

THE ordinary quarterly comitia of the College was held on the 27th inst., Sir Andrew Clark, Bart., President, in the chair. The proceedings were opened by the presentation to the registrar, Dr. Edward Liveing, of a gift of a set of silver candelabra, in recognition of his invaluable and arduous services on behalf of the College during the recent legal proceedings against the General Medical Council. The presentation was made by the President with his customary eloquence and was duly acknowledged by Dr. Liveing in feeling terms.

On the motion of Sir H. Pitman, seconded by the Senior Censor, it was resolved to present congratulatory addresses on the recent marriage of H.R.H. the Duke of York to the Princess Victoria Mary of Teck to H.M. the Queen, the Prince and Princess of Wales, and the Duke and Duchess of York. The Registrar, the Senior Censor and Dr. Gee were nominated as a subcommittee to prepare the addresses.

On the motion of the Senior Censor, seconded by Sir W. Priestley, a resolution was passed to the effect that a resolution to examine a candidate, adopted at the last comitia in fulfilment of a contract entered into in 1873 between the College and the Medical Board of Trinidad, should, when communicated to that Board, be accompanied by a statement that in consideration of the changes which have occurred in medical education since that time the examination of the holders of foreign qualifications for a legal status in Trinidad can no longer be conducted upon the present inadequate and unsatisfactory basis.

Dr. Norman Moore moved and Dr. J. Pollock seconded a vote of thanks to the President for a valuable series of autotype copies of the portraits of Harvey and his kin, now preserved at Rolls Park, Essex, a like series having been also presented to Caius College, Cambridge. A further vote of thanks was likewise cordially passed to the President, on the motion of Dr. Moore, for his gift of a copy of the portrait of Dr. Caius, which is preserved in that College.

The following gentlemen were admitted to the Membership of the College: William Arthur Bond, M.D., M.A. Camb.; Thomas William Cranstoun Charles, M.D. Queen's Univ., Ireland; Sidney Arthur Monckton Copeman, M.D. Camb.; Frederick Edge, M.D. Lond.; Alfred Milne Gossage, M.A., M.B. Oxford; James Elliot Graham, M.D. Toronto; John Arthur Hayward, M.D. Lond.; Alfred Mantle, M.D. Durh.; Arthur George Phear, M.B., B.A. Camb.; Charles Hubert Roberts, M.B. Lond.; George Henkell Drummond Robinson, M.D. Lond.; James Henry Sequeira, M.D. Lond.; John Francis Walkinghame Tatham, M.D., M.A. Dub.; and Edmond Fauriel Trevelyan, M.D. Lond.

A large number of Licences were granted to those who have recently passed the Examinations of the Examining Board in England, and the Diploma in Public Health of the two Colleges was granted to thirteen candidates who have passed the required examinations.

A communication was received from the General Medical Council, and the report of the representative of the College on the council was also read. It was resolved to refer the subjects dealt with in these communications to the Committee of Management.

A letter was read from the council of University College, Bristol, inviting the College to appoint a representative to serve on that council. The proposal was unanimously agreed to on the motion of Dr. Markham Skerritt, seconded by Dr. G. Harley; and it was further resolved, on the motion of the Treasurer, seconded by the Senior Censor, that Sir Andrew Clark, Bart., be appointed as the representative of the College.

A letter was read from the Rector of the University of Padua enclosing photographs and a drawing of the monument of Harvey there. The thanks of the College were passed to the Rector of the University of Padua.

The Baly Medal was, on the recommendation of the College, unanimously awarded to Professor Schiff of Florence and Geneva.

The Censors and other College officers and examiners, as nominated by the President and Council, were elected. The new Censors are—Dr. J. E. Pollock, Sir G. Buchanan, Dr. W. B. Cheadle and Dr. S. J. Gee.

On the motion of the Registrar certain verbal alterations in Bye-laws 115 and 116 relating to the Membership were adopted.

Several reports of committees were received and adopted, that of the Committee of Management giving rise to a short discussion on the examinations for the Diploma of Public Health.

In the quarterly report of the Examiners for the Licence it was stated that for the first quarter of the year, ending April, the following were the percentages of rejections in the various subjects: chemistry, 41 per cent.; materia medica, 40 per cent.; elementary anatomy, 11 per cent.; elementary physiology, 10 per cent.; anatomy, 35 per cent.; physiology, 36 per cent.; medicine, 40 per cent.; surgery, 36 per cent.; and midwifery, 45 per cent.; and for subjects under the new regulations (as yet but few candidates): chemistry, 18 per cent.; practical pharmacy, 28 per cent.; elementary biology, 31 per cent.; and elementary anatomy, 17 per cent.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the council held on Thursday, the 27th inst., the President, Mr. J. W. Hulke, in the chair,

The minutes of the quarterly meeting of the council held on the 7th inst. were read and confirmed.

The addresses of congratulation to Her Majesty and their Royal Highnesses the Prince and Princess of Wales on the marriage of H.R.H. the Duke of York to H.S.H. Princess Victoria Mary of Teck were read and approved.

The secretary submitted the deed of agreement between the Royal College of Physicians of London, the Royal College of Surgeons of England, and the trustees, for providing a sinking fund against the determination of the lease of the examination hall.

It was resolved that the College seal should be affixed to it.

It was agreed on the report of the Committee of Management of the two Colleges that the County Hospital, York, should be added to the list of General Hospitals recognised by the two Colleges.

It was resolved that the annual meeting of Fellows and Members of the College should be held on Thursday, Nov. 2nd next, at 3 o'clock P.M., and that the usual notices respecting it should be issued.

The council elected a committee on the Report to the Fellows and Members; this consists of the President, Vice-Presidents and Messrs. Bryant, Marsh and Tweedy.

The President consented that the annual report of the secretary should again appear in the narrative form adopted for the President's report.

Mr. Thomas Bryant was nominated a member of the new council of University College, Bristol.

A letter was read from Mr. H. P. Dunn reporting the following resolution adopted by the Committee of the Association of Fellows, the consideration of which was deferred to the next meeting of the council in October: "That the council of the Royal College of Surgeons of England be asked to arrange that the meeting of the Fellows separate from the members be summoned regularly and be properly organised after the model of the convocation of the University of London."

Mr. Rivington, in pursuance of his notice on the 7th inst., moved:—"That the appointment of members of the Court of Examiners revert entirely to the council, and be no longer referred to the Nomination Committee for recommendation and report." This motion, which was seconded by Mr. Macnamara, was not carried, there being 13 votes against and only 2 for it.

The financial report of the College shows that the income for the past year derived from examination fees amounted to £20,200; incidental receipts, £650; receipts from house property, £750; from investments, £5700; from trust funds, £251; making a total income of £27,551. The expenditure side of the account leaves a balance of £2256 18*s.* in the hands of the treasurer.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the subjects indicated below:

Surgery.—**W. Alder, Guy's Hospital; A. W. Austen, Westminster Hospital; J. Brown, Manchester; C. A. Davies, Manchester; H. J. Dean, London Hospital; G. C. B. Hawes, St. George's Hospital; F. S. Hogg, Charing-cross Hospital; J. H. Jolley, London Hospital; W. A. Jones, Bristol; J. M. A. Lamb, London Hospital; H. Litherland, Manchester; A. L. Morris, Guy's Hospital; A. E. Shepherd, Middlesex Hospital; G. M. Turner, Cambridge and St. Thomas's Hospital; and H. J. L. Wales, Guy's Hospital.**

Medicine, Forensic Medicine and Midwifery.—**J. H. Campbell, St. Mary's Hospital; F. J. Carter, St. Bartholomew's Hospital; S. A. Clarke, Middlesex Hospital; W. F. L. Green, King's College; E. W. Joscelyne, St. Mary's Hospital; R. D. Moore, St. Mary's Hospital; C. M. Rhodes, St. Mary's Hospital; A. E. Shepherd, Middlesex Hospital; P. Slack, Sheffield; A. J. Temperley, London Hospital; and F. D. Woolley, Manchester.**

Medicine and Midwifery.—**C. F. Gross, King's College; and A. Marshall, St. Thomas's Hospital.**

Medicine.—**E. Smallwood, Liverpool.**

Forensic Medicine and Midwifery.—**C. P. T. Edwards, University College.**

Forensic Medicine.—**B. W. Bond, St. Thomas's Hospital; and J. Edwards, London Hospital.**

Midwifery.—**S. R. Merry, Charing-cross Hospital.**

The diploma of the Society, entitling the candidates to practise Medicine, Surgery and Midwifery, has been granted to the following gentlemen:

Messrs. Bond, Clarke, Davies, Dean, Edwards, J. Green, W. A. Jones, Rhodes, Shepherd, Temperley, Turner and Woolley.

UNIVERSITY OF GLASGOW.—The following gentlemen have passed the fourth (final) professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):

(A) Candidates who took Pathology in Fourth Professional Examination.—**William Thomas Ainsworth, Duncan Francis Brown-Forbes Brown, George Burnside Buchanan, B.A. (Cantab); Allan Cameron, William Campbell, John Joseph Carruthers, Thomas Colvin, William Copland, Alexander Crawford, John Crawford, John Cross, David Alexander Dewar, Alexander Dingwall, M.A.; Alexander Dodds, William Duncan, David Fraser Harris, B.Sc. (Lond.); John Lindsay Howie, William Irwin, James Ritchie Jeffrey, Norman Stuart Jeffrey, George Lawson Kerr, David Millar King, James Lamont, James Ferguson Lees, Peter Marshall, Thomas Burns Marshall, James Binnie Millar, David Ramsay Miller, Bruce Buchanan Morton, Donald Douglas Macdonald, Duncan MacDonald, Roderick John Mackay, John M'Kenna, James Morton MacLauchlan, Balfour Stewart Nicholson, John Pearson, Peter Patton Petrie, M.A.; Eugene Louis Pollonais, Allan Ramsay, Hugh Robertson, James Robertson, John Selkirk, M.A.; William Smith Sinclair, Johnson Marion Smith, Thomas David Smith, Peter Maclean Smyth, Nathaniel Stevenson, M.A.; John Stewart, John Taylor, John Thomas, James Thomson M.A., Alfred Webster and Thomas Wright.**

(B) Candidates who Passed Pathology in Third Professional Examination.—**Abdullah Abdurahman, John Ewing Adam, Robert Young Aitken, Robert Hugh Allen, Robert Boyd, James Pearson Brown, M.A.; Johnstone Brown, Alexander John Brownlee, Robert Bruce, Walter Isaac Buchanan, Robert Jas. Carroll, Henry Blair Causley, Joseph MacNaughtan Christie, James Clark, Robert Cochrane, Peter Forrest Dewar, Frederick Dittmar, M.A.; Andrew Donald, John Donald, John Ernest Downs, George Edgar, James Donald Finlay, Alexander Forrest, Robert Scott Frew, James Fullarton, M.A.; William Westwood Fyfe, Thomas Blackadder Gilchrist, Robert Grieve, M.A.; Archibald Gilchrist Hay, M.A.; James Hunter, M.A. B.Sc.; William Munn Hunter, George Skeen Illingworth, William Llewelyn Jones, Thomas Kay, Andrew John Laird, James Lang, Robert Ritchie Manners, Campbell Samson Marshall, Duncan M'Fayden Millar, James Robert M'Cheyne Miller, M.A.; James Moffat, Peter M'Bryde, Gavin M'Callum, Arthur Wellesley M'Clelland, John M'Dougall, George M'Feat, Joseph M'Feat, William Alexander Mackay, John M'Kie, Thomas M'Nay, Malcolm Macnicol, M.A.; John Alfred Naismith, Robert Earle Newton, Andrew Christie Park, John Patrick M.A.; William Park Porter, Archibald Revie, Allan M'Lean Robertson, Hector Monteith Robertson, James Bryce Robertson, John Crawford Robertson, Edward Petrie Sinclair, Malcolm Alexander M'Intyre Sinclair, John Davidson Smith, Ebenezer Sugden, John Hammond Teacher, M.A.; John Johnson Urwin, Archibald Adam Warden, M.A.; James Loch Watson, Alexander White and Henry William Williams.**

MEDICAL MAGISTRATES.—Messrs. E. H. Davis, M.R.C.S., and David Mackechnie, L.F.P.S. Glas., L.R.C.P. Edin., have been placed on the Commission of the Peace for the borough of West Hartlepool.

PRESENTATION.—At the Victoria Court of the Ancient Order of Foresters, held at Canterbury on Monday, July 24th, the brethren of the Court presented Mr. Sadler, M.R.C.S., L.S.A., with an illuminated address as a mark of their appreciation of his valuable services as surgeon to the Court for the past sixteen years.

FOUR courses of instruction will be given by Dr. Heron, at the office of the Royal British Nurses' Association, 8, Oxford Circus-avenue, Oxford-street, on "Certain Points relating to the Nursing of Cholera." The meetings will be held on Mondays, Tuesdays, and Thursdays in August at 5 P.M. The first lecture will be delivered on Monday, Aug. 7th.

DEATH FROM ANTHRAX.—Police-constable Cox, of the Buckinghamshire constabulary, died on the 26th inst. from blood-poisoning contracted whilst helping to dispose of some carcases of bullocks on Monday last that had died from anthrax, the deceased having cut his hand, which almost immediately became swollen to a large size. Another man pricked his hand, and is now in a dangerous condition.

THE NATIONAL VETERINARY ASSOCIATION.—The annual general meeting of the members of this Association was inaugurated in the Town Hall at Manchester on the 26th inst. Mr. C. Faulkner presided. The president-elect is Mr. W. Hunting of London, where the association will meet next year to celebrate its jubilee. An important paper was contributed by Professor Macfadyean of the Royal Veterinary College, in which he discussed the question of the appropriate inspection of meat intended for food and contended that the veterinary surgeon was best qualified to inspect the carcase, whilst the determination of the influence of disease in animals intended for food was within the sphere of the medical profession.

LONDON POLICE-COURT MISSION.—With the view to promote the interests and to further the good work of this Mission, Mr. Theophilus Hoskin, L.R.C.P. Lond., M.R.C.S., and Mrs. Hoskin entertained a numerous company at their residence at Hackney on the 14th inst. Mr. Hoskin, in opening the proceedings, remarked on the degradation and misery he had witnessed amongst the poor and of difficulties the police-court missionaries had to contend with in cases where crime and misery were often connected. The secretary followed and gave statistics and interesting details of the work the Mission had done. A very large number of people were dealt with during the year 1892 and the income was only about £4000. They had the recommendation of most of the London magistrates and he appealed to the sympathy of the general public for financial aid.

Parliamentary Intelligence.

THE HOUSE OF LORDS.

FRIDAY, JULY 21ST.

The Millbank Site.

THE Earl of Meath repeated his question of last week in reference to the Millbank site. Earl Chesterfield, in reply, said that the Government attached primary importance to the application of the space in question to the building of artisans' dwellings as indicated in the Act of 1885 for the housing of the working classes, and they had offered the space to the County Council at the best price they could obtain in order to secure that purpose. They regarded this object as more important even than the reservation of an open space for the use of a particular locality which was already supplied with such spaces. They therefore did not feel disposed to withdraw the offer they had made to the County Council

THE HOUSE OF COMMONS.

THURSDAY, JULY 20TH.

Overcrowding in Railway Carriages.

Mr. Bartley asked the President of the Board of Trade whether his attention had been drawn to the overcrowding of third-class compartments on the London and North-Western Railway at Euston Station; and whether, in view of the fact that cattle trucks are forbidden to be packed with more than their registered number, he will order an inquiry and enforce penalties against the London and North-Western Railway Company so as to ensure that their third-class passengers at the Euston terminus shall be treated at least as well in the hot weather as cattle.—Mr. Burt replied on behalf of Mr. Mundella. He said that the attention of his right hon. friend had not been called to overcrowding on the London and North-Western Railway at Euston until he received notice of this question. The company had informed him that extra vehicles were added to the train referred to, and that an unexpected number of passengers arrived at the last moment and amongst them a lady with a child in her arms and some little ones by her side. As she was anxious to proceed by the train she and her children were placed in a particular third-class compartment with the intention that they should be changed at Willesden. This was not done because of a difficulty with the telephone. Overcrowding was the subject of by-laws and his right hon. friend did not think the matter was one for inquiry. In reply to a further question by Mr. Bartley, Mr. Burt said that the information received by the Board of Trade was that the company did all they could to prevent overcrowding and explained that the Board had no power except by calling the attention of the railway companies to cases of this kind.

FRIDAY, JULY 21ST.

Typhoid Fever at Worthing.

Replying to Sir C. Cameron, Mr. H. Fowler said it was true that there had been a severe epidemic of typhoid fever at Worthing. Between the 1st and the 19th of this month 548 cases of enteric fever had been notified to the Worthing sanitary authority. The clerk to the sanitary authority had been in communication with the railway company with reference to discontinuing the running of ordinary excursion trains and school excursion trains to Worthing, and the railway company were advising schools not to send excursions there; but the railway company said that they could not discontinue their advertised trains.

MONDAY, JULY 24TH.

Salvation Army Shelters

Mr. E. H Bayley asked the President of the Local Government Board whether he was aware that ten cases of small-pox had occurred at the Salvation Army Shelter in the Blackfriars-road, the persons affected having afterwards walked through the streets to various hospitals; and whether, in view of the possibility of cholera being spread through these shelters, he would consider the advisability of bringing them under the Common Lodging-house Acts?—Mr. H. Fowler was aware that cases had occurred, but assured the hon. gentleman that in any cases where the patients had been certified as suffering from that disease they had been removed to hospital in ambulances. The provisions of the Public Health (London) Act with reference to overcrowding and the sanitary condition of premises applied to these shelters in like manner as to any other house used as a dwelling. The shelter alluded to had been subjected to a penalty for non-observance of the sanitary rules after a case of small-pox had occurred. At present Mr. Fowler said he could not give any undertaking to propose the legislation suggested.

Cholera at Mecca.

Sir H. Roscoe asked the First Lord of the Treasury whether, in view of the imminent danger to the health of Europe caused by outbreaks of virulent cholera amongst the pilgrims at Mecca, and of the acknowledged absence in that city of the most ordinary sanitary regulations and precautions, he would consider whether the time had now arrived when, by international representations addressed to the Porte, the Government of the Sultan might be induced to enforce measures by which that most serious state of things might be mitigated, if not altogether remedied.—Sir E. Grey said this question would not be lost sight of by Her Majesty's representative at Constantinople, but there was reason to think that the circumstances connected with the recent outbreak of cholera in Mecca were now engaging the attention of the Ottoman Board of Health at Constantinople; and until further information was received as to the action of this Board it would seem to be premature for Her Majesty's Government to make any formal representation to the Porte.

Cholera and the Seaport Towns.

Replying to Sir S. King, the Chancellor of the Exchequer said he was informed that the sanitary authority of Hull had made a certain payment as compensation in respect of fruit which was destroyed last autumn by order of the medical officer of health. The compensation paid was half the amount claimed and the payment was made without prejudice and without admitting liability, and on the ground that the officer had not acted in accordance with the cholera regulations. In the case of a ship infected with cholera it devolved on the master of the ship to cause to be disinfected or destroyed, according to the directions of the medical officer of health, any articles which might probably be infected with cholera, and no compensation was, in the opinion of the Local Government Board, payable by the sanitary authority in respect of articles so disinfected or destroyed.

TUESDAY, JULY 25TH.

London County Council (General Powers) Bill.

On the order for the consideration of the Lords' amendments to this Bill, Mr. Stuart moved that the House disagree with the amendment of the Lords to the preamble, with a view to restore the words which had been struck out by the Lords and which would give representation to the County Council on the Thames Conservancy Board. The motion was agreed to without a division.

Army Medical Department.

Mr. Campbell-Bannerman informed Mr. A. C. Morton that an officer of the Army Medical Staff was in charge of the sanitary and statistical branch of the Army Medical Department at the War Office, whose duty was to bring to the notice of the Director-General any important sanitary question involved in the periodical sanitary reports from outstations. If the case was of sufficient importance the Director-General would draw the attention of the Commander-in-Chief to it. The principal medical officer's report is addressed to the general commanding the district, who takes such action on it as he thinks necessary, or, if the matter were important, referred the point to the Commander-in-Chief, who would naturally call upon the Director-General for his report and advice. The principal medical officer inspected barracks at home half-yearly; abroad (including India), annually. He was accompanied in his inspection by the commanding officer, or by some officer, not below the rank of captain, representing him. He had every reason to believe that the medical officers were fully supported in all matters affecting the soldiers' health.—Mr. Morton further asked whether there was any field hospital equipment available for the training of medical officers in the following garrisons: Portsmouth, Plymouth, Dover, Woolwich, York, Colchester, Edinburgh, Dublin and the Curragh.—Mr. Campbell-Bannerman said that at the stations named the necessary articles of field equipment were in store for purposes of mobilisation; but, as at present arranged, they were not available for purposes of instruction except at the Curragh, where half the establishment of a field hospital could be so used. As yet the depôt at Aldershot was the only school for the instruction of medical officers in field duties.

Cholera at Mecca.

Sir H. Roscoe again asked whether, considering that the lives of thousands of Her Majesty's Mahomedan subjects were yearly placed in danger at Mecca, and the Sultan had been memorialised to improve the sanitation, the Secretary for Foreign Affairs would urge the Porte to secure the immediate publication of the report of the Ottoman Board of Health on this subject.—Sir E. Grey replied that the subject was already occupying the attention of Her Majesty's Embassy and no effort would be spared to secure the adoption of suitable sanitary measures by the Ottoman authorities.

IN THE COMMITTEE ROOMS.

The Plumbers' Registration Bill.

On the resumption of the consideration of the Plumbers' Registration Bill by the House of Commons Standing Committee on Trade, Sir J. Goldsmid moved "That the Bill be no further proceeded with and that the chairman leave the chair."—The motion was opposed by Mr. Knowles and Dr. Farquharson, but was eventually carried by 17 to 12.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BARKER, W. H., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of the new Asylum at Ballarat, Victoria, Australia.

BULLMORE, WM. K., M.D. St. And., M.R.C.S., has been appointed Medical Officer of Health for the Falmouth Urban Sanitary District of the Falmouth Union.

CARR, THOMAS, M.B. Durh., M.R.C.S., L.S.A. Lond., has been appointed Medical Officer of Health to the Braintree Rural Sanitary Authority, vice C. E. Abbott, resigned.

COPLAND, JAS, M.D., Ch.M. Aberd., has been appointed Public Vaccinator for the District of Mataura, New Zealand.

CRIBB, C. H., B.Sc. Lond., F.I.C., F.C.S., has been reappointed Public Analyst for the Strand District

CROPLEY HENRY, F.R.C.S., has been appointed Medical Officer of Health for the Kingsthorpe Urban Sanitary District of the Northampton Union.

DAVIES, P. E., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Kidderminster Infirmary.

EAKINS, G. R., M.D. Brux., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon to the Echuca Hospital, Victoria, Australia.

FLINN, J. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Belmont-road Workhouse of the West Derby Union.

HALL, E. GEORGE, M.B. Lond., M.R.C.S., has been appointed Surgeon to the Bristol Dispensary.

HARE, A. W., M.B., F.R.C.S. Edin., M.R.C.S., has been appointed Medical Officer for the Keyworth Sanitary District of the Bingham Union, vice Helsham, resigned.

HARRIS, ALFRED, M.B., C.M. Edin., has been appointed Medical Officer of Health for the Thetford Urban Sanitary District of the Thetford Union, vice Joy, deceased.

HEWER, HENRY J., M.B., Ch.B. Melb., M.R.C.S., has been appointed Government Medical Officer at Blackall, Queensland, vice Gabriel, resigned.

HILL, A. M., M.B., Ch.B. Melb., has been appointed Resident Surgeon to the Castlemaine Hospital, Victoria, Australia, vice Hutton, resigned.

HOOD, DONALD W. C., M.D. Cantab., F.R.C.P., has been appointed Consulting Physician to the North-West London Hospital, Kentish Town-road.

HOOD, JAS. J., M.B., Ch.M., D.P.H. Glasg, has been appointed Government Medical Officer and Vaccinator for the Lower Clarence River District, Maclean, New South Wales.

ICK, THOS. E., M.B. Melb., has been appointed Public Vaccinator for the Shire of Poowong, Victoria, Australia.

KIRKALDY, W. B., M.B., Ch.M. Edin., has been appointed a Surgeon of the Queensland Defence Force, Queensland.

LEITCH, JAS. W., M.B. Ch.M. Edin. has been appointed a Public Vaccinator in South Australia.

LING, C. A., M.R.C.S., has been appointed Medical Inspector of Seamen for the Port of Colchester.

MACLACHLAN, HUGH K., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator for the District of Hamilton, New Zealand.

NEWLAND, EDWD. O., L.R.C.P. Lond., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Coonamble, New South Wales.
OSMOND, E. B., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Consulting Medical Officer to the Pontefract Dispensary.
PAGET, TOM L., L.R.C.P. Lond., M.R.C.S., has been appointed a Public Vaccinator for the district of Stratford, New Zealand.
PARK, JOHN S., L.A.H. Dub, L.R.C.P. Lond., has been appointed a Public Vaccinator for Rosedale, Victoria, Australia.
PARSONS, F. J. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Bridgwater Urban and Rural Sanitary Districts.
PURKISS, ARTHUR, M.D. Aberd., M.R.C.S., has been appointed Medical Officer for the Wolston Sanitary District of the Rugby Union, vice Wilson, resigned.
ROGERSON, JOHN, D.P.H., L.R.C.S., L.R.C.P., L.M. Edin., L.F.P.S., L.M. Glas., has been appointed Public Vaccinator for Dalserf and Medical Officer to Hill Collieries and Works, Netherburn, Dalserf.
SOMERS, JAS. L. E., L.R.C.S. Irel., has been appointed Health Officer for Flinders and Kangerongshire, Victoria, Australia.
WALKER, WM. J., M.B., C.M. Edin., has been appointed a Public Vaccinator in South Australia.
WILSON, GEORGE, M.B., C.M. Edin., has been appointed Honorary Surgeon of the Palmerston North Rifle Volunteers.
WOOD, T. J., M.D. Lond., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Bradford Infirmary.
WOODS, WILLIAM J., M.B., B.Ch., B. & O. Irel., has been appointed Junior House Surgeon to the Royal Southern Hospital, Liverpool.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRISTOL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £100 per annum, with rooms and attendance.
CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL, Chesterfield.—Assistant House Surgeon. Salary £50 per year, with board, apartments and laundress.
CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident House Surgeon. Salary £100 per year, with board, apartments and laundress.
DEACONESSES' INSTITUTION AND HOSPITAL, Tottenham.—Senior House Surgeon. Salary £60, with board, lodging and laundry.
HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary £60, with board and furnished apartments.
HUNGERFORD UNION.—District Medical Officer for the Kintbury District of the Union. Salary £80 per annum, with the usual extra fees. Applications to the Clerk to the Guardians, Hungerford.
ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon. Board and rooms provided. Honorarium of £10 given at the end of six months if found satisfactory.
SWANSEA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, furnished apartments, coals, gas, laundress and attendance.
THE RETREAT, York.—Junior Assistant Medical Officer (unmarried). Salary £100, with board, lodging and washing.
VICTORIA INFIRMARY OF GLASGOW.—Superintendent and Resident Medical Officer.
WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgeon.

Births, Marriages and Deaths.

BIRTHS.

BRUNTON.—On July 20th, at Linden House, Walthamstow, the wife of C. E. Brunton, M.B., M.R.C.S., of a son.
CAMPBELL.—On July 19th, at The Manor, Radcliffe-on-Trent, Nottingham, the wife of A. Campbell, M.B., of a son.
ELLIS.—On June 24th, at Singapore, the wife of Dr. W. Gilmore Ellis, of a daughter.
FISHBOURNE.—On July 23rd, at West Kensington, the wife of Brigade-Surgeon Eustace Fishbourne, M.D., F.R.C.S.I., Army Medical Staff (R.P.), of a son.
WILLAN.—On July 20th, at South-street, Dorking, the wife of Leonard Willan, M.R.C.S. Eng., L.S.A., of a son.
WORRALL.—On June 18th, at Lewisham-road, Highgate-road, N.W., the wife of E. S. Worrall, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

CAPES—THORP.—On July 25th, at St. Peter's, Dulwich-common, by the Rev. H. J. Pully, M.A., assisted by the Rev. H. S. Swithinbank, M.A., and the Rev. W. P. Beckett, M.A., Robert Capes, M.R.C.S. Eng., L.R.C.P. Lond., youngest son of H. H. Capes, Esq., of Belmont, Harrogate, to Mary Isabel, eldest daughter of Dr. Sidney Thorp, Lordship-lane, Dulwich.
HEY—MALLAM.—On July 20th, at St. Giles's Church, Oxford, Harrold Darwen Hey, of Eastfield, Faringdon, M.R.C.S., to Mary, only daughter of George Mallam, Esq., Solicitor, Oxford.
PALMER—HAFFENDEN.—On July 28th, at Denmark-hill, Chas. Spencer Palmer, M.R.C.S., L.R.C.P., of Redhill, Surrey, to Evelyn May, daughter of Charles Dally Haffenden, of Champion-grove, Denmark-hill.
WALKER—LEAROYD.—On July 19th, at Queen-street Wesleyan Chapel, Huddersfield, Edward Walker, M.D., M.R.C.S., of Huddersfield, to Ethel, eldest daughter of Samuel Learoyd, Sherwood House, Huddersfield.

DEATHS.

COOPER.—On July 23rd, at Feckenham, Worcestershire, Frank William Cooper, M.R.C.S. Eng., late of Gainsboro' House, Leytonstone, aged 54.
DILL.—On July 20th, at Belfast, Robert Foster Dill, M.D., Professor of Midwifery, Queen's College, Belfast.
LEAKE.—On July 19th, at Hove-park-villas, West Brighton, Jonas Leake, Esq., M.D., aged 89. R.I.P. Irish papers please copy.
PEEVOR.—On July 24th, at Bakloh, Punjab, Surgeon-Major George Hamilton, Peevor of 1st Battalion 4th Goorkhas, aged 41. (By telegram.)
PICTHALL.—On July 17th, at Motcomb-street, Belgrave-square, S.W., John Pictball, M.D., Deputy Surgeon-General Bengal Army, retired, aged 65 years.
WHITE.—On July 24th, in the 38th year of his age, Percy H. White, M.B., M.R.C.S., &c., of 3, Moore-street, Cadogan-square, S.W., fourth son of the late Richard White of Norwich. Interment at St. James's Cemetery, Dover, on Saturday, at 3.30 p.m. Friends will kindly accept this the only intimation.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

BOOKS ETC. RECEIVED.

ALCAN, FÉLIX, Paris.
Recherches sur l'Épilepsie, l'Hystérie et l'Idiotie. Par Bourneville. Vol. XIII. 1893. pp. 368.

BLACKWOOD, WM., & SONS, Edinburgh and London.
My Water-Cure as tested through more than thirty years. By Sebastian Kneipp; translated by A. de F. Second Edition. Illustrated. 1893. pp. 282.

CHATTO & WINDUS, Piccadilly, London.
Doctor Pascal, or Life and Heredity. By Émile Zola; translated by E. A. Vizetelly. 1893. pp. 354. Price 3s. 6d.

CHURCHILL, J. & A., New Burlington-street, London.
A Manual of Diseases of the Nervous System. By W. R. Gowers, M.D., F.R.S. Second Edition. Vol. I. 1893. pp. 1069. Price 20s.
Homburg-Spa: An Introduction to its Waters and their Use. By Dr. Arnold Schetelig. 1893. pp. 166. Price 2s. 6d.

FANNIN & CO., Dublin, and BAILLIÈRE, TINDALL & COX, London.
A Handbook of Obstetric and Gynæcological Nursing, being the Fifth Edition of a Manual for Midwives. By the late Fleetwood Churchill, M.D.; edited by T. M. Madden, M.D., F.R.C.S. Edin. Illustrated. 1893. pp. 216.

KIMPTON, H., Holborn; and HIRSCHFELD, BROS., Fetter-lane, London.
Indigestion, Gout, Corpulency and Constipation clearly Explained, Treated and Dieted. By Thos. Dutton, M.D. Durh. Third Edition. 1893. pp. 220.

MACMILLAN & CO., London.
Sciatica: A Record of Clinical Observations on the Causes, Nature and Treatment of Sixty-eight Cases. By A. Symons Eccles, M.B. Aberd. 1893. pp. 88. Price 3s. 6d.

PENTLAND, YOUNG J., Edinburgh and London.
Appendicitis and Perityphlitis. By C. Talamon. Translated by R. J. A. Berry, M.B., C.M. 1893. pp. 239.

SAUNDERS, W. B., Walnut-street, Philadelphia.
Nursing: Its Principles and Practice, for Hospital and Private Use. By Isabel A. Hampton. Illustrated. 1893. pp. 484.

THE RECORD PRESS, 376, Strand, London.
How to become a Hospital Nurse. By Alice Dannatt. Second Edition. pp. 151. Price 1s. 6d.
Cheiro's Book of the Hand. pp. 96. Price 1s. 6d.
The Nursing Directory for 1893. Second Annual Issue. pp. 96. Price 5s.
What Constitutes an Efficient Nurse. By Marian C. Piscoffs. pp. 48. Price 6d.

WILLIAMS & NORGATE, Henrietta-street, London; and S. KARGER, Berlin.
Gynäkologisches Vademecum für Studirende und Aerzte. Von Dr. A. Dührssen. 1893. pp. 170.
Syphilis und Prostitution. Von Dr. A. Blaschko. 1893. pp. 106.

Archives de Neurologie; Numéro 77; Juillet 1893 (Bureaux du Progrès Médical, Paris).—Stazioni Balneari e Climatiche nel Trentino: di O. Brentari (Sante Pozzato, Bassano, 1892).—Transactions of the Obstetrical Society of London, Vol. XXXV., for the year 1893; Part I. for January and February (published by the Society, Hanover-square, W.); price 4s.—Gemma Ferruggia; Follie Muliebri; 2o Migliaio (L. O. Zorini, Milano, 1893).—Il Mondo Criminale Italiano: del Prof. Cesare Lombroso, 1889–1892; 3o Migliaio (L. O. Zorini, Milano, 1893).—Rules for Associate Life and Brotherhoods; with an Introduction by T. Lewis (published at *The Vegetarian*, Memorial Hall, Farringdon-street, E.C.); price 1s.—The Ophthalmic Review, July, 1893 (J. & A. Churchill, London); price 1s.—Der Sulcus Praeauricularis Ossis Ilei: von Prof. T. Zaaijer (Johannes Müller, Amsterdam, 1893).—A Consideration of some of the Conditions requisite for obtaining Underground Water-supplies: by Geo. Hodson, C.E. (H. Wills, Loughborough, 1893).—Magazines for August: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 27th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 21	29·70	S.W.	64	60	121	76	58	·20	Cloudy
,, 22	29·89	W.	63	59	121	75	59	·02	Cloudy
,, 23	30·24	S.W.	65	59	114	74	54	..	Cloudy
,, 24	29·94	S.W.	67	66	116	77	60	·44	Cloudy
,, 25	29·89	N.W.	66	60	122	75	60	..	Cloudy
,, 26	29·81	W.	64	60	114	73	58	..	Cloudy
,, 27	30·13	N.E.	60	57	110	68	57	·04	Fine

Medical Diary for the ensuing Week.

Monday, July 31.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, August 1.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, August 2.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 3.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, August 4.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, August 5.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

AN ODD REQUEST.

FROM time to time we receive many curious communications, of which the following is an example:—

"The Secretary. "22—7—93.

"Gentlemen,—I am decirous to be a Surgeon Dentist. Would you kindly give instructions so as to enable my name be placed on the register & oblige yours obediently "———."

We can scarcely say that we regret our inability to comply with our correspondent's request.

Palladium.—The "Baccelli method" for the treatment of traumatic tetanus consists in the injection of phenic acid (2 per cent.). Drs. Strazzeri and Titoni employed it in the case of a child in whom the disease declared itself after a severe contusion of the right knee with slight abrasion in the same region. The injections of the phenic acid in the proportion indicated were practised every six hours, with the administration from time to time of opiates. The treatment lasted four weeks and the result was successful.

DENTISTS' ATTENDANCE ON MEDICAL MEN.

Troubled.—Our correspondent is quite right. The general principle that guides the amenities and services of medical men to each other and their families should hold in respect to qualified medical men and in the case of dental practitioners who are on the Dental Register, and *vice versâ*. Of course the cost of mechanical appliances is not included in such services on either side.

Mr. W. Ernest Wright.—The very interesting subject to which our correspondent's letter refers is one that we have discussed on a previous occasion and in connexion with the statistics of a larger office doing the same kind of business.

"POISONING BY PRIMULA OBCONICA."

To the Editors of THE LANCET.

SIRS,—A case of the above, differing somewhat from that described by Mr. Pooley in THE LANCET of this week may be of interest. About eighteen months ago I was consulted by a lady for repeated attacks of an intensely irritable papular eruption on both hands. The eruption lasted three or four days, and then the skin desquamated. On one occasion the chin was affected. My patient was an enthusiastic gardener and had a considerable knowledge of plants. She suspected the Primula Obconica from having read of its peculiar properties; and, in order to put her suspicions to the test, bared her arm and lightly passed a bunch of its leaves round the middle of the forearm. Nothing happened until the next day, more than twelve hours after the experiment, when a broad band of small papules appeared on a raised base giving rise to almost intolerable itching. She found that it was not necessary for the *juice* of the leaves to be applied to the skin, and also that if the fingers, after handling the plant, touched the face, the eruption was produced there as well. A strange feature was the fact that there was no effect until after the lapse of so many hours. The flowers alone had no evil influence. For several months before the cause of the trouble was discovered this patient's life was almost unendurable from the terrible irritation. After getting rid of all of this particular kind of primula there was no further attack.

I am, Sirs, yours truly,

C. KINGSLEY ACKLAND, L.R.C.P. Lond.

Bideford, July 22nd, 1893.

TREATMENT OF CHOLERA BY SULPHUROUS ACID.

To the Editors of THE LANCET.

SIRS,—With cholera so prevalent in the South of France and it may be likely to appear in England, can you help in obtaining for the sulphurous acid treatment a fair trial. In THE LANCET of Dec. 13th, 1873, you were good enough to insert a letter from me on this subject; it was then a theory, but I have *proved it* since then by actual trial and I may say have not lost a case where the treatment was properly carried out. The ten cases noted in the pamphlet I enclose are a fair specimen of the treatment and its results. In none of the cases did the treatment commence till four hours after the attack had come on, and in four of the cases eight, nine, eleven and twelve and a-half hours respectively had elapsed before the treatment commenced. Relief was obtained in four of the cases in two, two and a-half, three and three and a-half hours from the commencement of treatment. Four of the cases were *cured* in four, five, seven and a-half and ten hours after the treatment was commenced and in four others fifteen and three-quarters, sixteen, seventeen and twenty-one hours completed the cure. It is easy to make the treatment fail if attention is not paid to the points I have indicated, but I do ask for a fair trial and may I hope that you will aid me to get this.

I am, Sirs, yours faithfully,

CHARLES R. G. PARKER,

Trewinnow, Paignton, July 10th, 1893. Brigade Surgeon, retired.

"HARROGATE WATERS AND MEDICAL ADVERTISEMENTS."

To the Editors of THE LANCET.

SIRS,—I notice that on Saturday last you refer to the advertisement in the *Harrogate Advertiser* of "Practical Observations on the Harrogate Waters" as if some error against professional etiquette was being made by Drs. Myrtle. I have not seen either gentleman since THE LANCET appeared, but I have taken this the earliest opportunity of writing you on the subject. The book in question is not the property of Drs. Myrtle at all. It is printed and published by its owner, Mr. Robt. Ackrill, printer and publisher of this town, and advertised at his expense, Drs. Myrtle having nothing to do with the announcement. I write this to put them right with you.

I am, Sirs, yours truly,

J. W. ACKRILL, ED. *H.A.*

Advertiser Office, Harrogate, July 24th, 1893.

THE SPLEEN IN INFECTIOUS DISEASES.

N. N.—Experiments conducted by Dr. A. Cesaris-Demel on the method proposed by Drs. Foà and Carbone, and recorded by him in the *Riforma Medica* (anno vii., vol. iii., pp. 40-41), have thrown much light on the signal part played by the spleen in sustaining the organism against infective agencies. The action of that viscus, Dr. Cesaris-Demel claims to have proved for the first time, is essentially "anti-toxic" and tends to antagonise the special poison imported into the circulation by infection.

Mr. J. W. Draper.—There is only the natural rule that a medical man should be paid for his certificates. His claim is on the patient, who must then settle matters with the society.

THE FLESH OF PARTURIENT ANIMALS.

To the Editors of THE LANCET.

SIRS,—Could you please oblige by answering the following in THE LANCET of this week: 1. Is an animal killed during labour fit for human food? 2. What is the effect if so eaten? 3. What tissue changes are undergone to make the animal unfit? Last Friday I was called to a case by my inspector of a sow slaughtered after two of her young had been born. "The sow was stated to have been in labour for three days." Both young pigs were dead. The butcher was sent for and the sow slaughtered and dressed on licensed premises. I condemned the animal as unfit for food, believing any animal in a puerperal state to be unfit. Our Board have decided to prosecute, and I am at a loss to know the effects &c., if the flesh had been eaten by human beings.

I am, Sirs, yours truly,

July 20th, 1893. ALPHA.

*** Unless an animal is suffering from disease, is in a febrile condition, or has had drugs administered its flesh should not be unsuitable for human food if it is killed whilst in labour. This is a common occurrence in cases of difficult parturition in food-supplying animals, and no harm has ever been known to arise from the consumption of the flesh. The flesh of animals which have been affected with puerperal fever, which is in reality septicæmia, not to be confounded with puerperal apoplexy, should not be consumed as food. This reply answers the three questions.—ED. L.

ON THE MEDICINAL TREATMENT OF ENLARGED PROSTATE &c.

To the Editors of THE LANCET.

SIRS,—With reference to the usual constipation attending this disease, I have found that a night dose of extract of belladonna combined with podophyllin (one-quarter grain to one-half grain of each), occasionally alternating with two drachms of Rochelle salt, very effectual, the attending frequent micturition somewhat relieved, the necessity for the morning pipe as an aperient obviated—a considerable advantage in cases complicated with cardiac disease—and the catheter less frequently required. The morning sponging of the surface, with copious local ablution, usually continued, combined with great moderation in the use of alcoholic drinks.

I am, Sirs, yours truly,

Herne Bay, June 27th, 1893. JOHN C. RICHARDSON.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Le Temps (Paris), Western Morning News, Bombay Gazette, Cape Times, City Press, Oldham Evening Chronicle, Glasgow Herald, Liverpool Courier, Birmingham Post, Irish Times, Yorkshire Post, Liverpool Daily Post, Sanitary Record, Health, Mining Journal, Local Government Chronicle, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Citizen, Reading Mercury, Local Government Journal, Christian News (Glasgow), Guy's Hospital Gazette, Sunday Times, Builder, Architect, West Middlesex Advertiser, Oswestry Advertiser, Surrey Advertiser, Chesham Examiner, Dispatch (Pittsburg), Vegetarian, Hackney Gazette, Times of India, Madras Mail, Pioneer Mail, Morning, Cumberland Racquet, Scottish Leader, Sanitarian, Aberystwith Observer, Oban Times, Flintshire Observer, Lincolnshire Chronicle, Sydenham, Forest Hill and Penge Gazette, Edinburgh Evening Dispatch, Darkest England Gazette, Australasian Medical Gazette, Beverley Guardian, Daily Press and Knickerbocker (Albany, N. Y.), Highland News, &c. &c.*

Communications, Letters &c. have been received from—

A.—Dr. Julius Althaus, London; Dr. F. P. Atkinson, Surbiton; Mr. Anthony A. Bowlby, London; Mr. C. Kingley Ackland, London; Mr. J. W. Ackrill, Harrogate; Messrs. Armour and Co., London; Messrs. Andros and Co., Brighton.

B.—Dr. J. M. Bright, Forest Hill; Dr. F. Beach, Sidcup; Dr. A. M. Buchanan, Partick; Mr. Arthur A'Beckett, London; Mr. R. J. Blackham, Sidcup; Mr. W. H. Bennett, London; Mr. C. J. Bond, Leicester; Mr. C. Birchall, Liverpool; Mr. J. Bennison, London; Mr. T. S. Browne, London; Messrs. Blondeau et Cie, London; Bonus, London; Ben Rhydding Hydro Establishment Managing Director of; Bristol Hospital for Sick Children, Secretary of; Birmingham General Hospital, Secretary of.

C.—Dr. F. C. Cory, Buckhurst Hill; Dr. W. Collingridge, Greenwich; Dr. J. B. Coleman, Dublin; Dr. A. Campbell, Ratcliffe-on-Trent; Mr. W. R. Cornish, London; Messrs. Crossley, Moir and Co., London; College of State Medicine, London, Assistant Hon. Secretary of.

D.—Dr. G. W. Davis, Sidcup; Mr. J. W. Draper, Huddersfield; Denaeyer's Peptonoids and Extract of Meat Co., Limited, London, Proprietors of.

E.—Dr. C. H. East, Grosmont; Surg.-Lt.-Col. Evatt, Woolwich; Messrs. Eason and Son, Dublin.

F.—Dr. Augustus Frere, London; Dr. Theodore Fisher, London; Dr. S. Fleming, London; Mr. D. B. Foley, Wombwell.

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I.—Investment, London.

J.—Dr. J. M. Jeanty, Bordeaux; Mr. G. James, Tenby; Mr. H. M. Jordan, Newport; J. P. W., Brighton.

K.—Mr. W. H. Kesteven, Hendon; Mr. S. Kenny, Bedford.

L.—Dr. R. H. Lucy, Plymouth; Mr. T. Laurie, London; Mr. C. J. Lathbury, Dunstable; Messrs. Leveson and Son, London.

M.—Dr. J. Mackie, Alexandria; Dr. Jas. Murphy, Sunderland; Mr. A. B. R. Myers, Plympton; Mrs. Maitland, London; Messrs. McMillan and Co., London; Medico-Psychological Association, Secretary of.

N—Nautilus, London.

O.—Messrs. Oliver and Boyd, Edinburgh; *Ontario Medical Journal*, Managing Editor of.

P.—Dr. A. Gordon Paterson, Ascot; Dr. George Hare Philipson, Newcastle-on-Tyne; Mr. B. Pitt, London; Mr. Y. J. Pentland, Edinburgh; Mr. F. H. Preston, London; P. O., London.

R.—Dr. R. Reid Rentoul, Liverpool; Dr. H. G. Rawdon, Liverpool; Mr. R. H. Mills Roberts, Llanberis; Mr. C. H. Robinson, Dublin; Messrs. Richardson Bros. and Co., Liverpool; Royal South Hants Infirmary, Southampton, Secretary of; R. M., Peterboro'; Royal British Nurses' Association, Hon. Secretary of.

S.—Mr. H. Sell, London; Mrs. Swinson, Malvern Wells; Messrs. Street and Co., London; Messrs. Street Bros., London; Sanitas; Surcingle, London.

T.—Dr. W. Bezly Thorne, London; Messrs. H. A. Thompson and Son, London.

V.—Violet Frères, London.

W.—Dr. F. J. Waldo, London; Dr. A. E. Wright, Netley; Dr. J. S. Walker, Hanley; Mr. S. Wand, Leicester; Mr. W. Whiteley, London; Messrs. J. Wright and Co., Bristol; Messrs. Whitworth and Stuart, Manchester; W. W., Moxley.

Y.—York Retreat, Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. B. H. Archer, Weston-super-Mare; Africa, Burton-on-Trent; Alpha, Bradford; Aber, London; Argus, London; Arithmos, London.

B.—Dr. W. Butler, London; Dr. Brachet, Aix-les-Bains; Dr. T. M. Bonar, Probus; Mr. W. S. Battiss, Kingston; Mr. C. E. Brunton, London; Mr. N. Burns, Ashton-under-Lyne; Mr. R. H. Brockelbank, London; Mr. W. G. Bower, West Boldon; Mr. F. A. Bush, Frampton-on-Severn; Rev. E. Briscoe, Bilbo, co. Carlow; Messrs. Benson and Co., London; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. Benger and Co., Manchester; Bradford Infirmary, Secretary of; Bonus, London; Barr, Manchester.

C.—Mr. D. Clifton, Stockport; Mr. J. F. Campbell, Halifax; Messrs. Cassell and Co., London; College of Preceptors, London; Cantab, London; Collieries, London.

D.—Dr. J. Davis, London; Mr. J. E. Dunn, Preston; Mr. A. V. Dyer, Bishop's Waltham; D. M., London.

E.—East Sussex County Council, Lewes, County Accountant of; Electro-Hydropathic Establishment, Bath, Principal of; E. M., London.

F.—Farmer, London; F. A., London.

G.—Mr. W. Galloway, Gateshead-on-Tyne; Mr. H. H. Gunnell, Wrexham; Mr. W. Gilyard, Bradford; Mrs. Gann, Hayling Island; Messrs. Gordon and Gotch, London; G. H., London.

H.—Dr. J. Holmes, Whitefield; Canon Houghton, Kingsbridge; Mr. J. Hickman, Dorking; Mr. R. Holmes, Pontefract; Mr. J. H. Hughes, Holywell; Mr. T. F. Hale, Chesterfield; Mr. J. J. Hicks, London; House Surgeon, London; Homburg Städtische Kur und Bade Verwaltung; H. W. W., Wokingham; Hyde, London.

I.—Iatros, London.

J.—Dr. J. R. James, Rhondda Valley; Mr. Y. M. Jones-Humphreys, Cemmaes; Mr. F. W. Joy, Northwold.

K.—Mr. T. S. Keys, Gorseinon; Mr. G. Knapton, Seascale; Messrs. Kilner Bros., London.

L.—Dr. J. L. Livingston, Hursley; Mr. W. Latham, Ashton-in-Makerfield; Mr. E. Q. Louch, Langport; Mr. J. Lambert, Hull; Messrs. Lee and Martin, Birmingham; Lupton, Stratford-on-Avon; Liverpool Royal Infirmary, Secretary of; Locum, London.

M.—Dr. D. Macgregor, Hawick; Dr. W. Murrell, London; Mr. A. McBeath, Unst, Shetland; Mr. E. Menier, London; Monarch Investment Building Society, London; Mutual Life Assurance Society, London, Actuary of; M. D., Monkwearmouth; M.B., Loughborough; Medicin, York; Medicus, York; Medical, London.

N.—Dr. E. P. Norman, Ashbourne; Mr. H. Newman, Hadleigh.

P.—Dr. J. J. Pringle, London; Mr. A. E. Price, Longton.

R.—Mr. R. Rickards, Darenth.

S.—Mr. F. Sykes, Huddersfield; Mrs. Skinner, Winchelsea; S. L., London; Salford Royal Hospital, Secretary of; S., Malvern Wells; Surgeon, London.

T.—Dr. C. B. Taylor, Nottingham; Mr. W. J. Towner, Brighton; T. B. D., Crowthorne.

U.—University, London.

V.—Mr. Van Praagh, London; V. Z., London; Vaccine Lymph Association, London.

W.—Dr. J. T. Windle, Halifax; Mr. J. H. Wraith, Darwen; Mr. H. J. Walker, Sketty; Messrs. W. Wood and Co., New York; W. M., London.

Y.—Mr. H. M. York, Brighton.

Z.—Zeta, London.

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Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

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Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.